JUNIOR CO-OPERATIVE

Variety Tests 1943

Published by Saskatchewan Co-operative Wheat Producers Limited
March, 1944

Saskatchewan Wheat Pool

Reproduced on the cover of this report is "Son of the Soil," the work of Mr. Frederick Steiger of Saskatoon. In contemporary art circles Mr. Steiger is recognized as a portrait painter of no little achievement. His portraits have won acclaim wherever exhibited. His works have been hung in the Royal Canadian Academy and the Ontario Society of Artists.

"Son of the Soil" is one of Mr. Steiger's latest. "Drought," "Bachelor Button," "The Eternal," are among others of his well-known character studies.

Misfortune came to Mr. Steiger recently when a fire in his studio destroyed his best known paintings. Luckily, however, Mr. Steiger had the foresight to have photographs made of his works as they were completed.

JUNIOR CO-OPERATIVE VARIETY TESTS

WHEAT, BARLEY AND FLAX

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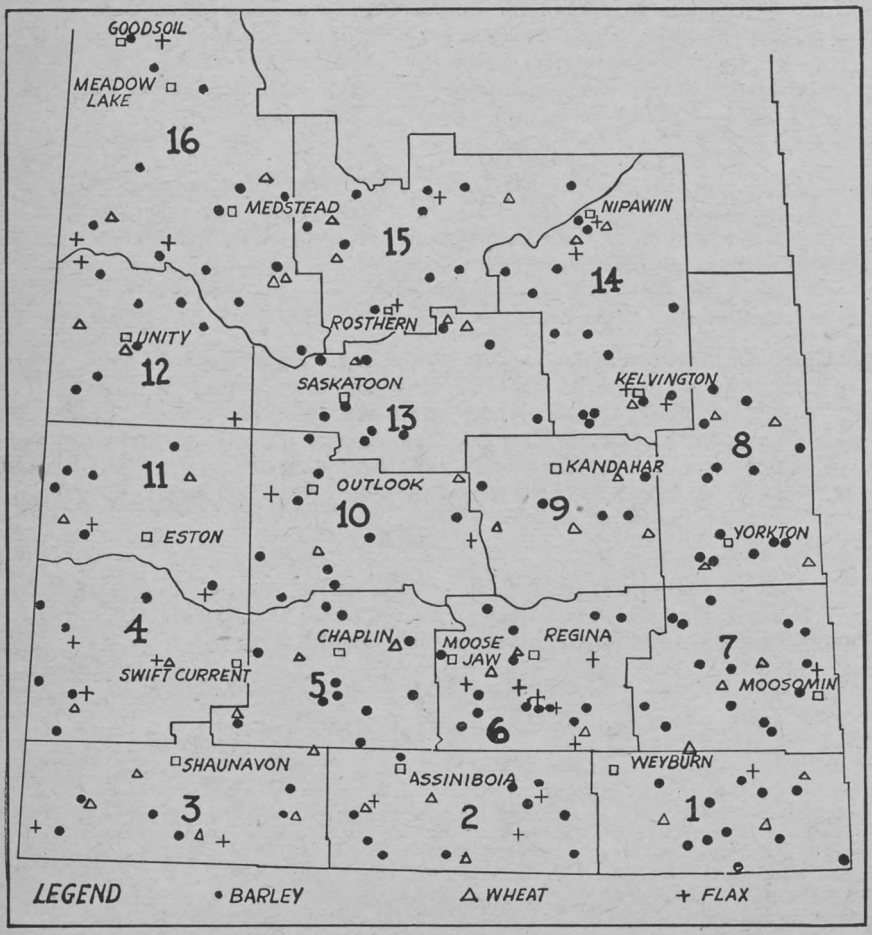
INTRODUCTION

BECAUSE of the acute labour shortage and the need of all available help for actual farm work, careful consideration was given to the advisability of continuing the variety testing programmes which have been conducted by the Saskatchewan Wheat Pool each year since 1935. However, with the development of new and promising varieties and the necessity of obtaining accurate information in connection with these varieties, it was felt that the tests were of considerable value and by the use of a simplified plan and with the aid of younger co-operators the work should be continued.

With the increased importance of feed crops it was decided that the main part of the 1943 project should consist of a barley test. Five varieties were selected for testing purposes, including O.P.R. 1, a semi smooth-awned barley. This variety was recently developed at the University of Saskatchewan, the object behind its development being the need of a barley which would be acceptable to the maltsters, and also prove satisfactory for feeding

MAP SHOWING LOCATIONS OF TESTS



purposes. The barley project covered the whole of the grain growing area of Saskatchewan.

The second part of the programme which was of a limited nature, consisted of a test with wheat varieties. A small amount of Newthatch wheat was obtained from the University of Saskatchewan and this variety, together with three varieties now in general use throughout the Province were selected for testing purposes. Newthatch is an H-44 x Thatcher cross and is the result of continued plant breeding work in the United States. It is considered to be resistant to both stem and leaf rust, but prior to this test no data was available in connection with its suitabality for widespread use in Saskatchewan.

The necessity of increased flax production and the epidemic of flax rust during the past two years has stimulated the search for new and better flax varieties and a flax variety test constituted the third part of the 1943 programme. With the co-operation of Mr. E. J. Mitchell, Secretary of the Flax Institute of the United States, a small supply of seed of three new rust resistant varieties was made available. Hitherto none of these varieties had been tested in Canada and it was expected that their inclusion in the tests, together with the three varieties now generally grown in Saskatchewan, would produce valuable information. Because of the small amount of seed available the flax project was of a limited nature, but as in the case of the wheat project the distribution of the tests was made over as wide an area as possible.

LOCATION OF TESTS

For the purpose of organization the Saskatchewan Wheat Pool has divided the Province into sixteen districts. In turn each district is divided into ten or eleven sub-districts. An endeavour was made to have two tests in each of these sub-districts. The main project with barley varieties covered the whole of the grain growing area of the Province, and altogether 158 of these barley tests were conducted. The limited number of tests with wheat and flax were as widely distributed as possible. In all, there were 50 wheat tests and 32 tests with flax varieties.

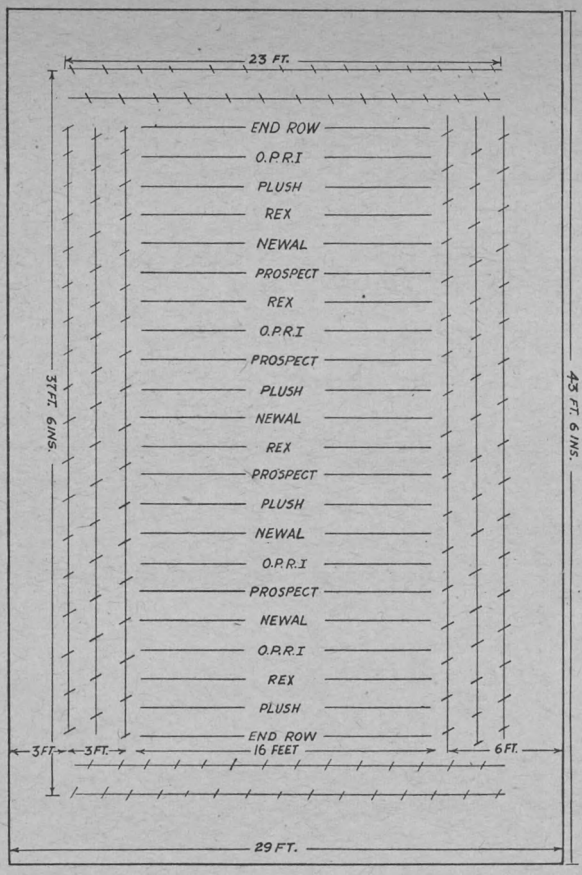
DESCRIPTION OF TESTS

Each barley and wheat test was sown on a plot of ground the size being 23' x 37'6". This allowed for 20 rows, each row being 16 feet long and 18 inches apart. In the flax tests the size of the plot was 23' x 43'6", which allowed for 24 rows each 16 feet long and 18 inches apart. Allowance was also made for a buffer row at each end of the test and an outside protection of winter wheat. Sown around the test at a distance of about 3 feet from the outside rows of winter wheat two or more drill widths of oats acted as wind protection. In the case of the wheat test these oats also acted as a sawfly trap. In the barley project the same balanced randomization was used for all tests. In the wheat and flax projects each test was separately randomized. These arrangements resulted in precise comparisons throughout the three projects. The 1943 tests were decidedly more simple to sow than any of the tests which have been conducted in previous years. This was necessary as the co-operators were much younger than any who had carried out this work in the past. In the wheat and barley tests the seeds were sown at a depth of 2½ to 3 inches, while in the test with flax varieties the co-operators were instructed to sow the seed at a depth of 1½ to 2 inches.

ORGANIZATION AND CO-OPERATION

Junior Co-operators carefully selected by Wheat Pool Delegates, were again appointed to act as test supervisors. Some of these co-operators had already conducted a variety test but many were undertaking the work for the first time. To ensure that each test would be sown exactly in accordance with the prescribed plan, detailed information in connection with laying out and sowing the test was supplied to each co-operator. A coloured plan was also supplied which showed the distribution of the varieties within the test.

Weighing and assembling of the seed for the experiment was carried out in the Head Office of the Wheat Pool organization in Regina. The row num-



PLAN OF TEST

This plan shows method employed in sowing the barley test. The plan of the wheat and flax tests was similar except that in the case of the flax test there were 24 rows instead of 20. In connection with the barley project distribution of of the varieties was similar in each test but the wheat and flax tests were separately randomized.

ber and the name of each variety were stamped on each envelope and sufficient seed for each row was weighed and placed in the envelope. Sufficient winter wheat was also supplied for the outside protection rows. In addition to the seed, numbered wooden stakes were included to mark each row in the test.

During the growing season three reports were required covering the progress of the test, the dates for the completion of these reports being June 15th, July 15th, and at the completion of harvesting. The first report requested information in connection with the date of seeding, soil type, cultural treatment, soil moisture, depth, and the amount of rainfall from the date of seeding to June 10th. Full details in regard to the dates of emergence, uniformity of stand, cutworm, wireworm, and grasshopper damage, and also soil-drifting damage was requested in this report.

The second Progress Report asked for information regarding dates of heading, insect damage not mentioned on the first report, details in regard to weed interference, and with the exception of the reports for the flax tests, it also asked for information in connection with the percentage of

heads affected with covered smut, the number of loose-smutted heads, and the percentage of stem rust which appeared on each variety.

The Final Report covering wheat and barley tests requested information in connection with the height of each row, straw strength, date when most heads were ripe, the percentage of bird damage, the percentage of shattering, and the date of harvesting. The percentage of stem rust was also required to be noted on this report. The final reports covering the flax test requested information in connection with when most bolls were formed, average height of plant, date when most bolls were ripe, damage by wilt, canker, frost and grasshoppers, and date when harvested.

Before the tests were harvested further instructions were forwarded to the co-operators. In these instructions special attention was given to such points as the best time to harvest and how harvesting should be done. Special care was requested in the curing of the crop and storing it until it was ready to be handed over to the local Wheat Pool elevator agent for shipment.

The co-operator was particularly requested to see that each of the 20 rows were parcelled separately, together with the stakes identifying them. Only a small portion of the straw was required to be retained with the heads. After the crop had been harvested it was then required to be thoroughly dried and the 20 bundles parcelled and shipped to Regina. Special shipping tags were forwarded to each Pool Elevator agent in order that identification could readily be established when the sheaves were received for threshing. The sheaves were threshed at the Head Office of the Saskatchewan Wheat Pool.

Each row of the different varieties in each test was threshed separately, the amount of grain being then weighed, giving yield in grams per plot. This information was entered on a specially prepared threshing report form. This report form enabled a record to be kept of the yield in grams of each of the twenty rows in the test. A column was also provided for remarks in connection with color, etc. After each test had been threshed the yields from the rows of each variety were placed in one bag and thoroughly mixed in order that a uniform sample of the variety could be obtained. This sample was then cleaned, weighed in pounds per measured bushel, and the commercial grade was placed on each variety.

The project was again arranged and supervised by Dr. J. B. Harrington, Professor of Field Husbandry, University of Saskatchewan.

The compiling, summarizing, and statistical work was carried out at the Head Office of the Saskatchewan Wheat Pool in Regina, under the supervision of R. F. Haddrell.

ANALYSIS OF DATA

The Saskatchewan Cereal Variety Committee has devised and improved a scheme of provincial zonation for Cereal Varieties. The zones are illustrated on pages 40 and 41 and a description of each zone is given below.

In the case of the barley tests all data were compiled and analyzed by these new Cereal Variety Zones. Because of the limited number of tests of wheat and flax it was impossible to analyze these tests by Cereal Variety Zones.

CEREAL VARIETY ZONES
PREVAILING SOIL TYPE AND CLIMATIC CONDITIONS

Zone	Prevailing Soil and Climate
1A	Brown soils; subject to frequent droughts.
1B	Brown soils; subject to more frequent droughts than 1A.
2A	Dark brown soils; subject to occasional droughts; better moisture conditions than 1A.
2B	Dark brown soils; slightly cooler than 2A.
2C	Dark Brown soils, bench land; cooler; shorter frost-free season and better moisture conditions than 1A.
2D	Dark brown soils; higher elevation and distinctly shorter frost-free season than 2B.
2E	Dark brown heavy clay soils; more drought resistance than 2A and 2B.
2F	Brown and dark brown heavy clay soils; more drought resistance than 1A and adjoining 2B.
3A	Black soils; better moisture conditions than 2A.

3B.....Deep black and degraded black soils; shorter frost-free season and better moisture conditions than 3A.

3C.....Black soils; better moisture conditions than 2B, and cooler than 3A.

3D.....Deep black soils; better moisture conditions than 3E.

3E.....Black soils; shorter frost-free season and better moisture conditions than 2D.

3F.....Degraded black soils; better moisture conditions and shorter frost-free season than 3D.

3H.....Degraded black soils; distinctly short frost-free season.

4A.....Gray and strongly degraded black soils; short frost-free season.

4B.....Gray soils; distinctly short frost-free season; better moisture conditions than 3E.

RAINFALL

As the amount of rainfall during the growing season has a far greater influence upon the yields than the amount of the annual precipitation, the rainfall shown in Table No. 1 covers only the months representing the growing period in Saskatchewan during 1943 (April to August). The data was summarized by Wheat Pool Districts.

TABLE No. 1.—This table shows the average number of points reporting in each Wheat Pool District and the average total precipitation in each month, April to August, 1943.

AVERAGE TOTAL PRECIPITATION

Wheat Pool District	April *		May *		June *		July *		August *	
1	14	.47	14	1.61	13	3.74	9	1.56	9	1.65
2	15	.26	21	1.30	20	3.97	15	1.50	12	1.33
3	8	.16	10	1.64	12	3.17	9	1.16	5	1.01
4	9	.11	12	1.15	14	1.76	10	.59	9	1.32
5	7	.13	14	2.66	18	1.65	9	1.34	7	1.05
6	10	.07	21	.97	20	2.09	18	1.82	10	1.79
7	15	.11	21	2.28	21	3.10	17	1.27	13	2.85
8	10	.26	14	1.73	13	2.22	12	1.58	7	2.45
9	9	.18	16	1.55	16	1.19	13	1.92	13	2.31
10	7	.03	19	3.36	15	.67	11	1.18	13	1.58
11	10	.12	27	1.58	25	1.28	15	.82	12	1.35
12	12	.19	26	2.13	22	1.91	20	1.56	18	2.30
13	6	.14	21	1.89	21	.50	16	2.18	16	.80
14	8	.14	13	1.24	12	1.76	10	1.74	10	.75
15	7	.14	10	1.42	10	.79	8	3.35	9	.87
16	14	.17	8	1.39	15	2.14	18	2.10	13	1.91

* No. of stations reporting.

NAMES, ORIGINS AND DISEASE REACTIONS OF VARIETIES USED IN THE TESTS

Wheat

All of the varieties are hard red spring wheats with mid-sized, awnletted (beardless) heads and smooth white glumes.

Apex.—Apex was developed at the University of Saskatchewan, Saskatoon, from the composite cross (H-44-24 x Double Cross) x Marquis, the Double Cross being a sister of Thatcher from the cross (Marquis x Kanred) x (Marquis x Iumillo). It is highly resistant to stem rust, moderately susceptible to leaf rust and bunt and moderately resistant to loose smut. The new strain Sask. 1789 was used in these tests.

Newthatch.—Newthatch was originated at the University of Minnesota from the cross Thatcher x H-44-24. It is highly resistant to stem rust, moderately resistant to leaf rust and bunt and moderately susceptible to loose smut.

Regent.—Regent was obtained from a cross between H-44 and Reward, made at the Dominion Rust Research Laboratory at Winnipeg. The original stock, R.L. 975.1 was used in these tests as there was insufficient seed available of the new strain, 975.6. This variety is highly resistant to stem and leaf rust, moderately resistant to bunt and susceptible to loose smut.

Renown.—This variety was produced at the Dominion Rust Research Laboratory, Winnipeg, Manitoba, from a cross between Reward and the rust-resistant variety H-44-24. The new strain R.L. 716.6 was used in these tests. Renown is highly resistant to stem rust, leaf rust, bunt and loose smut.

Thatcher.—Thatcher was produced from a cross made in 1921 at the Minnesota Agricultural Experiment Station, St. Paul, between Marquis x Iumillo and Marquis x Kanred. From one of the original crosses, Marquis x Iumillo, a bread wheat type was obtained with a considerable degree of resistance to stem rust under field conditions. From the Marquis x Kanred cross, a spring wheat was selected of good milling and baking qualities that are immune to several forms of black stem rust, and of high yielding ability. Thatcher originated from a cross between these two. Thatcher is highly resistant to stem rust and loose smut but is susceptible to leaf rust and covered smut (bunt).

Barley

Newal was developed at the University of Alberta from a cross made in 1919 between O.A.C. 21 and a Minnesota hybrid from Manchuria x Lion. It is a nodding, six-rowed, smooth-awned variety with straw-colored kernels. It is susceptible to leaf and stem rust and moderately susceptible to loose and covered smut.

O.P.R. 1 was originated at the University of Saskatchewan from the cross O.A.C. 21-Peatland x Regal. It is nodding, semi-smooth awned, six-rowed variety with straw-colored kernels. It is resistant to stem rust and moderately susceptible to leaf rust, loose smut, and covered smut.

Plush was originated at the Brandon Experiment Station, from the cross Lion x Bearer. It is a new, six-rowed, smooth-awned variety with straw-colored kernels. It is susceptible to rusts and smuts.

Prospect is a nodding, six-rowed, smooth-awned variety with straw-colored kernels. It was developed at the Swift Current Experiment Station from a natural cross in Black Barbless. It is susceptible to leaf and stem rusts and moderately susceptible to loose and covered smuts.

Rex was originated at the University of Saskatchewan by crossing Velvet, a sister of Regal, with Hannchen. It is a nodding, two-rowed, smooth-awned variety with deep straw-colored kernels. It is susceptible to leaf and stem rust and moderately susceptible to loose and covered smuts.

Flax

Bison.—Bison is a highly wilt-resistant variety developed by selection at the North Dakota Agricultural College. It has blue blossoms and fairly large brown seeds of high oil content but only fair oil quality. Bison is highly susceptible to rust and to injury from spring frosts.

Golden Selection 977.—This is a new unnamed selection made from Bolley's Golden at the North Dakota Agricultural Experiment Station. It has white blossoms and large yellow seeds, is resistant to both rust and wilt and is high in oil content and quality.

The Barley Test of Ernest W. Sigfrid of Nora.

Koto.—Koto was developed by hybridization at the North Dakota Agricultural Experiment Station. It has blue blossoms and medium-sized brown seeds, is resistant to both rust and wilt and is high in oil content and quality.

Redwing.—Redwing is a wilt-resistant variety produced by selection at the Minnesota Agricultural Experiment Station. It has blue blossoms and small brown seeds. Redwing is susceptible to rust.

Royal.—Royal is a rust and wilt-resistant variety selected at the University of Saskatchewan from the susceptible variety Crown. It has pale blue blossoms and mid-sized brown seeds with a characteristic whitish tip. It is high in oil content and fair in oil quality. Royal is unusually resistant to spring frost compared with Bison.

Victory.—Victory was produced by selection at the North Dakota Agricultural Experiment Station. It is resistant to rust and wilt and high both in oil content and quality. Victory has white flowers and large yellow seeds.

GENERAL GROWING CONDITIONS, 1943

May.—The early part of May was cold with frosts at night and rain and snowflurries were reported in all regions of Saskatchewan. While some progress had been made with seeding operations in the south and centre, they were decidedly later than in a normal year. In the early part of May moisture conditions were more or less good but towards the end of the month in some areas, particularly in the south-west and north-west seeding operations were suspended awaiting rain and warmer weather.

June.—During the first week of June light to heavy rains were received over practically the whole of the Province. In the south-east, parts of the centre, the north-centre and the north-west, the rainfall averaged from one to one and a half inches and, with the exception of a small area in the south-centre and a region in the south-west lying south of the South Saskatchewan River, there was sufficient moisture to ensure germination. Frosts continued to cause setbacks and moisture followed by warm weather was urgently required as in general, despite the moisture received, the crop had made little headway. Low temperatures continued until June 9th. Cutworms and wireworms were active and heavy local damage was reported. A heavy weed growth was noticeable in all areas. Generally at June 11th moisture conditions were more or less satisfactory but there were still some areas where rain would be beneficial. The most outstanding improvement had occurred in the area south of the South Saskatchewan River, where good rains had alleviated the unfavourable condition which had hitherto existed. In the regions where temperatures had reached relatively high points, all crops had made fairly good progress, but in most areas, although the plants were stooling well, slow development continued. In the northern regions the crop was still exceedingly late, and taking the Province as a whole the season was possibly ten days later than in a normal year. Cutworms and wireworms were very active in the south-east, south-centre and parts of the south-west. Frosts were still being recorded and continued to arrest development.

In the middle of the month rain was reported in nearly all areas but the moisture was very unevenly distributed. In that area previously mentioned south of the South Saskatchewan River and reaching out from the Alberta border, the moisture had been insufficient to meet requirements and an early rain was required to maintain conditions. Despite warmer weather the crop had not responded as well as expected and continued to be later than in a normal year while warm weather and sunshine were urgently required. Cutworms and wireworms continued their destructive work and weeds were a matter of comment. Hail was reported in the east-centre but no serious damage to the crop was experienced. During the last week of June the weather was warmer and the crop appeared to respond well to the more favorable conditions. Moisture in varying amounts had been received over most of the Province, the heaviest rains falling in the south-east, a part of the south-centre, and a part of the north-west. Quite good rains also fell in other areas but in the south-west, most of the centre, and parts of the north-centre and north-east, at points where some precipitation was received, it

consisted of only light scattered showers. On one or two days high winds prevailed and soil-drifting was reported. Drifting was particularly severe in the centre where many flax fields suffered considerably. The high winds, apart from actual damage, had depleted the surface moisture and there was now a relatively wide area where moisture conditions were far from satisfactory. The most unfavorable outlook was in a part of the south-west in an area which reached out from the Alberta border. Little or no rain had fallen in this portion of the Province and during the week extensive deterioration had occurred. There was also a wide region in the centre, and which reached into parts of the north-centre and north-east, where little precipitation had been received. In this area high winds had exhausted the surface moisture and a good early rain was required in order that the condition of the crop would be maintained. The heavy weed growth which was apparent throughout the Province was still a subject of comment. Cutworms and wireworms appeared to be still active, but only slight damage had occurred during the week under review. Scattered hail storms were reported in the north-east and north-centre. If prospects which existed at this time were to be maintained the fulfillment of two urgent needs was required immediately. One, which applied to the whole Province, was warmer weather with sunshine to stimulate growth, and over a wide area a good rain followed by high temperatures was also an urgent need.

July.—At the beginning of July in those areas where moisture was sufficient the crop had made good progress. Light to heavy showers had been received in a number of regions but the precipitation was again extremely varied. Moisture was most abundant in the extreme south-centre where an average rainfall of 1.25 inches was reported. In that part of the south-west where a condition of drought existed, some showers had been received but in general moisture deficiency in this area had become increasingly acute. The drought area had widened, many points reported severe deterioration, and unless a good rain was received it was considered that further declines were inevitable. Other areas where little rain had fallen and moisture was urgently needed were in parts of the centre, the west-centre, north-east, north-centre, and north-west. In these areas the rainfall during the season had been far below normal. The long period of cool weather, while arresting development, had assisted the crop to maintain its condition. However, some declines had occurred, and it was feared that unless an early rainfall was received further deterioration of a rapid nature must result. Where moisture conditions were favorable the most pressing requirement was higher temperatures to hasten growth and avoid possible frost damage before maturity. In other areas where the effects of moisture deficiency were appearing there was need of a good soaking rain followed by higher temperatures if further deterioration of a serious nature was to be avoided.

At the beginning of the week which ended July 9th, weather conditions were generally fair and moderately warm, but for a three day period which began on July 7th recordings of 90° F. were reported over most of the Province. Elbow and Outlook with official readings of 100° F. recorded the highest temperatures for the week. Showers had fallen in a number of areas and at a few stations heavy rains were reported, but in general the precipitation for the week was scattered and only of a light nature. Because of excessive heat and lack of moisture sharp deterioration had occurred in crop conditions in many regions. In fact the only areas where the condition of the crop had been more or less maintained were in the south-east and in the extreme north-east. In all other parts some declines were noted. The most serious deterioration was shown in the south-west, the centre, the west-centre, and parts of the north-west and north-centre. The most severe drought conditions still existed in a part of the south-west. A widening of the stricken area had occurred and at some stations near the Alberta border all crops were almost complete failures. At other points the excessive heat had reduced prospects until even with good rains only light yields could be expected. Grasshoppers were making their appearance in this region and it was feared that considerable damage would be done as the season advanced. In the centre and west the intense heat wrought considerable havoc. Scattered hailstorms again occurred which also caused extensive local damage.

Light to heavy rains of a very uneven nature were received during the week ending July 16th while temperatures ranged from moderately warm to quite hot. In a number of regions prospects appeared a little more favorable but at this time there was still a wide region where moisture conditions were by no means satisfactory and where a good rain was needed immediately. In that part of the south-west where deterioration had been extremely heavy only relatively light scattered showers had been received, and although conditions had been more or less maintained the damage caused by inadequate moisture and excessive heat of the last week was severe. In close proximity to the Alberta border there were a number of points where even with ideal conditions little more than the return of seed and feed could be expected. At other stations in this severely drought-stricken area yields of only a very light nature could be looked for and the presence of grasshoppers in large numbers made the final outcome even more uncertain. In parts of the centre which had been suffering severely, showers had alleviated the situation to some extent, but there were still some points which showed further deterioration and as the moisture was extremely uneven a good general rain was needed in order that the condition as it existed at this time would be maintained. In the west-centre there were many stations which reported heavy showers, but here again although the moisture situation was more satisfactory than in the previous week, a general rain was still needed. Hail storms were again reported over many areas with severe local damage at some points.

During the week ending July 23rd temperatures ranged from moderately warm to decidedly hot. Light to heavy showers had fallen over the Province but the moisture was still by no means uniform. A number of stations in the south and centre reported beneficial rains, but in general where precipitation was received it consisted only of light scattered showers and at many stations no rain had fallen. During this time moisture was most abundant in the extreme north-centre where all points showed an average rainfall for the week or nearly 1.5 inches. Quite good rains, although of uneven distribution, also fell in parts of the north-west and north-east. In the south-east and the extreme south-centre, there were still prospects of fair to good returns, but over this entire region moisture was needed in order that proper filling would be ensured. In that part of the south-west which constituted the most ill-fated area of 1943, practically no precipitation had been received and the afflicted region continued to widen. It now reached out from the Alberta border to a point in the vicinity of Swift Current. At the most severely stricken stations, the majority of which were in a region adjacent to the Alberta border, even with good rains between this time and maturity little or no commercial crop was in prospect. At other points, where conditions were somewhat more favorable, the stubble fields were total failures and immediate and heavy rains were needed in order that relatively light yields might be produced by the crops on summerfallow. Even in the latter fields the presence of grasshoppers and sawfly infestation made the final outcome very uncertain. Across most of the centre the rainfall for the reporting week had been light and scattered. In this area heavy deterioration had previously occurred and to prevent further declines good rains were required in the immediate future. In parts of the north-west, north-east, and the southern part of the north-centre, only relatively light yields were in prospect due to high temperatures and lack of adequate moisture during the early part of the month. A good general rain was still needed throughout this wide region to maintain the current prospects. The heavy weed growth further aggravated the unfavorable weather conditions.

Little precipitation fell during the last week of July. High temperatures had again prevailed and a further decline in the condition of the Saskatchewan wheat crop was noted. The coarse grains crop also showed a distinct decline because of the heat and almost rainless weather, and there was a need of an immediate rain throughout practically the whole of the Province. There were a number of regions where the early sown wheat appeared to be filling fairly satisfactorily but the late fields were in urgent need of moisture, and unless precipitation was received it was feared that the returns from these late fields would be extremely poor. In general it appeared that the oats and barley had suffered from the adverse weather more severely than the wheat, the barley crop being particularly affected. In the more favored

areas the heavy weed growth was expected to have a distinct influence upon the final outcome of the flax and it was feared that the effects of rust infection would also be felt before harvest. A general survey of the condition of the different crops showed that during the week deterioration had occurred in all sections with the exception of the extreme north-centre, but in the east-centre and across the north while rain was still needed, particularly for the late sown fields, there were prospects of fair to good yields. Heavy deterioration had occurred at a number of points in the extreme south-west and there was a wide region in the centre which reached into parts of the northern areas where only relatively light yields were in prospect. In that part of the south-west which represented the most severely drought-stricken area in the Province no rain had fallen during the week and further declines were recorded. Grasshoppers were present in large numbers in this region and these pests, together with a heavy sawfly infestation, made the outcome still more uncertain. Sawfly infestation was also in evidence at scattered points in other areas, and it was feared that at least some losses would occur before the crop was harvested. Hail storms were reported in different parts of the Province and some rather heavy local damage had been caused, but the most extensive injury resulted from a storm which swept over an area south and west of Regina. At a number of points in this region severe damage was reported.

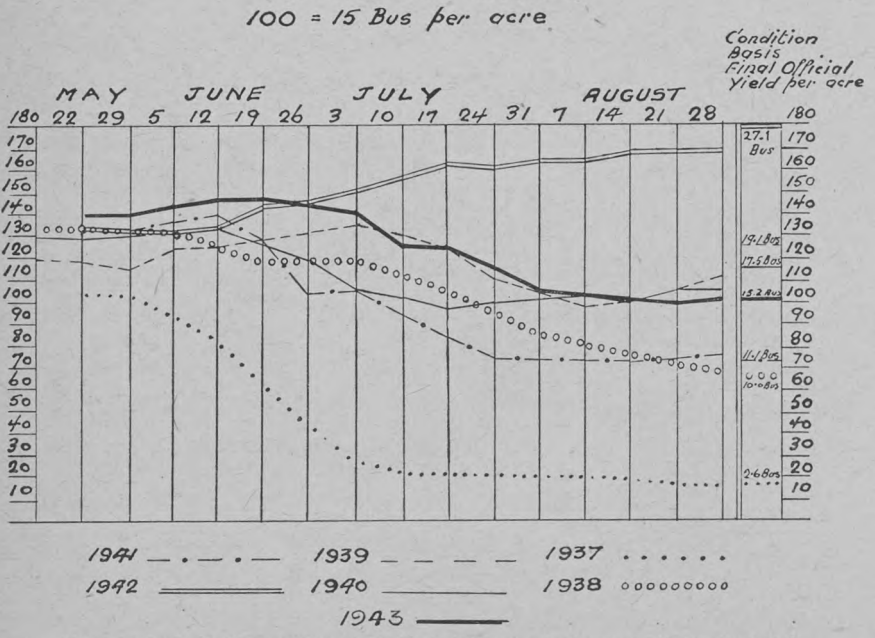
August.—Cooler weather prevailed in the first week of August and light to heavy showers fell throughout the greater part of the Province. At a number of stations hail accompanied the rainfall and in some areas the damage had been severe. The most serious hail losses appeared in a region in the west-centre, but severe damage was also reported at a number of points scattered over a relatively wide territory in the south-centre. Hail had swept over other parts of the province with the result that varying degrees of damage had occurred. Broadly speaking, apart from hail losses the condition of the crop had been fairly well maintained. Throughout most of the Province rainfall had been of considerable assistance in promoting more satisfactory filling and it was expected that the late sown crops would show good improvement. There were, however, some areas where moisture was still needed. This applied particularly to parts of the south and in the northern areas. In these regions a good rain was required and the fear was expressed that unless early moisture was received further deterioration was expected. A severe sawfly infestation was reported in parts of the south and centre, and although it was expected that farmers would exercise every effort to keep the losses at a minimum, the final outcome of the wheat crop would depend to a considerable degree upon the extent of sawfly losses between this date and harvest. During the greater part of the week ending August 13th moderate temperatures had prevailed. Showers had fallen throughout the major part of the Province, being most abundant across the extreme south, but heavy showers had also been received across the centre and north. Further damage by hail was reported and in some areas the injury had been quite severe. The most serious hail losses had occurred in parts of the south and centre but some damage was also reported in other widely scattered districts. The showers of the previous two weeks had greatly assisted towards proper filling and been of considerable benefit to the late sown fields. Encouragement by better filling conditions and the response of the late sown fields had to some extent been offset by the heavy sawfly losses which were now becoming apparent throughout practically all of the southern and central areas, and it was feared that even with proper precautions in harvesting, sawfly damage would have a distinct bearing upon the final outcome of the 1943 wheat crop.

Temperatures were relatively low during the early part of the week ending August 20th but for the remainder of the week the weather became warmer but the nights continued cool. Light frosts were reported in the east-centre, but little or no damage to field crops was expected. While on one or two nights temperatures in the north had been perilously near to freezing point, no frost was reported in this region, but the fear of frost damage was still existent and two more weeks of frost free weather was required in order that this fear would not be realized. Showers had fallen at scattered points and hailstorms were again reported in a number of areas.

Most of the precipitation fell in the north while the heaviest hail losses had occurred in part of the south-centre in a region west of Moose Jaw, and in a wide area in the west-centre. In most of these regions damage was severe, but in the latter territory a cyclonic wind accompanied the hail and this factor intensified the damage which had been sustained. Hail storms were also reported in other parts of the Province, but while some rather heavy local damage had occurred, outside of the regions mentioned losses had not been particularly extensive. During a part of the week high winds had prevailed throughout the major portion of the Province. Some lodging had occurred but the most severe injury had been caused by aggravating the situation which had been brought about by the work of the sawfly larvae. Throughout the south and centre and reaching into the north there was a heavy sawfly infestation. In many regions severe damage was reported and in an effort to keep losses at a minimum much of the wheat that would have otherwise been left for straight combining was being swathed and many fields were being cut while still somewhat green. Despite these precautions it was expected that the 1943 wheat crop would suffer severe damage before harvesting was completed. Cutting had begun in all areas but only in the south and in parts of the centre were operations general. Good weather was experienced and harvesting was carried out with few interruptions.

Summary:—In conclusion it may be said that the 1943 crop was a very disappointing one. Lack of moisture was the primary cause of the deterioration which occurred during the growing season, but a heavy weed growth, severe sawfly infestation, and serious hail losses over wide areas, were contributory factors in reducing the wheat crop to one which appeared to be less than one-half of the production of 1942. When considered on the basis of bushels per acre the average yield was only slightly more than the long time average yield for the Province. The production of coarse grains was far below the returns which were expected earlier in the season, but the

GRAPH SHOWING WEEKLY TREND OF SASKATCHEWAN WHEAT CROP—1937-1943



(This graph shows the condition of the Saskatchewan wheat crop as it appeared each week during the growing season—1937-1943. The final official yield per acre is shown in last column.)

flax was the most disappointing crop. Damage by high winds, severe drought conditions, rust infection, and a heavy weed growth resulted in considerable losses, and although Saskatchewan's flax acreage in 1943 was approximately double that of 1942, the estimated production in 1943 was approximately only one million bushels in excess of the flax production in 1942, a decrease in the average yield per acre of 4.4 bus.

YIELD RESULTS

In analyzing the yield results of barley, wheat, and flax, calculations were made on the yield data obtained within each zone to determine the necessary difference between varieties required for odds of at least 19:1 that one variety yielded, under the conditions of the tests and irrespective of soil variability, more than another. If the difference between two varieties equals or exceeds the necessary difference the higher yielding variety is considered to be significantly higher yielding than the other.

BARLEY TESTS

TABLE No. 2.—AVERAGE YIELD IN BUSHELS PER ACRE SUMMARIZED IN CEREAL VARIETY ZONES

Cereal Variety Zone	No. of Satisfactory Tests	O.P.R. 1	Plush	Rex	Newal	Prospect	Necessary Difference in Bushels
1A	19	26.2	32.5	29.1	28.8	26.3	2.1
1B	6	13.5	18.6	17.2	16.8	15.7	4.5
2A	8	33.2	39.7	38.3	42.1	39.5	4.8
2B	7	25.6	29.8	27.7	28.4	21.1	4.1
2C	1	28.3	29.0	32.6	37.3	34.2	*
2D	No test available						
2E	5	22.3	28.3	25.2	26.8	22.8	4.3
2F	2	38.8	37.7	31.3	39.7	32.1	*
3A	10	42.6	45.2	44.5	45.3	37.0	3.7
3B	8	38.9	40.5	33.2	43.4	31.7	4.4
3C	12	35.9	37.7	34.9	40.1	29.8	2.9
3D	2	36.0	54.1	43.4	44.1	28.9	*
3E	9	28.8	26.6	25.9	32.0	20.4	3.4
3F	3	44.6	51.4	41.3	52.0	34.6	3.0
3H	1	75.0	71.5	48.5	65.5	53.5	*
4A	3	51.9	56.7	46.7	52.3	37.4	7.9
4B	5	37.5	38.2	30.7	39.0	29.0	4.9

* Insufficient data.

GRAIN YIELD

Table No. 2 shows the average yield in bus. per acre summarized in Cereal Variety Zones. A general average of all tests shows that Newal and Plush tied in yielding ability. Each of these varieties produced an average yield of 36.3 bus. per acre and in this comparison exceeded O.P.R. 1 and Rex, which also tied, by 3.7 bus. and Prospect by 7.5 bus. In nine out of the sixteen zones for which data are available Newal excelled. It showed its best comparative performance in Zones 3B, 3C, 3E and 3F. In 3E it yielded significantly more than Plush, Rex and Prospect, while in the other zones named above it exceeded O.P.R. 1, Rex and Prospect by differences which exceeded the necessary differences for the zones. In the following zones Newal also yielded significantly more than the varieties shown: 1A—O.P.R. 1 and Prospect; 4B—Rex and Prospect; 2A and 2E—O.P.R. 1; 2B, 3A and 4A—Prospect. Plush excelled in six zones. In Zone 1A it yielded significantly more than any of the other varieties and in Zone 3F it outyielded O.P.R. 1, Rex and Prospect by differences which exceeded the necessary difference. In the zones mentioned Plush also yielded significantly more than the varieties shown: 2B and 2E—O.P.R. 1 and Prospect; 3B, 4A and 4B—Rex and Prospect; 1B and 2A—O.P.R. 1; 3A, 3C and 3E—Prospect. A general average of all tests showed that O.P.R. 1 and Rex also tied each of these varieties showing an average yield of 32.6 bus. In the southern zones and in part of the centre Rex exceeded O.P.R. 1 in grain yield while the latter variety outyielded Rex throughout most of the central and northern zones. Rex showed its best comparative yield in Zone 1A where it yielded significantly more than O.P.R. 1 and Prospect. In Zone 2A Rex yielded significantly more than O.P.R. 1, while in Zones 2B, 3A, 3C, 3E, 3F and 4A it exceeded prospect by differences which exceeded the necessary differences for the zones. O.P.R. 1 exhibited its best yielding ability in Zones 3B, 3F and 4B, where it yielded significantly more than both Rex and Prospect. It also outyielded

Prospect by a difference which exceeded the necessary difference in Zones 2B, 3A, 3C, 3E and 4A. Averaging over the entire project 28.8 bus. per acre Prospect was low in yield. It showed to best advantage in the extreme south, particularly in Zone 2A where it yielded significantly more than O.P.R. 1. In three of the other zones where sufficient data are available it also exceeded O.P.R. 1, but in these zones the differences were non-significant.

Table No. 3.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING

Cereal Variety Zone	O.P.R. 1	Plush	Rex	Newal	Prospect
1A	87.4	89.2	88.9	87.7	86.3
1B	81.5	82.2	81.7	81.2	81.7
2A	86.2	87.8	87.0	87.6	85.4
2B	87.4	87.6	87.0	86.8	87.8
2C	90.0	90.0	90.0	90.0	90.0
2D	No test available				
2E	88.0	89.7	87.7	88.7	86.3
2F	87.0	88.0	87.5	87.5	87.0
3A	85.2	86.3	86.5	86.0	84.5
3B	86.1	87.3	86.3	86.8	85.3
3C	92.2	94.8	92.5	90.8	89.9
3D	103.0	104.0	103.5	103.5	102.5
3E	91.1	92.0	93.5	91.2	89.0
3F	81.0	82.5	81.0	82.5	78.0
3H	96.0	99.0	96.0	90.0	96.0
4A	97.5	98.2	97.7	98.2	99.0
4B	93.0	95.0	93.3	94.0	94.0

DAYS FROM SOWING TO RIPENING

Table No. 3 shows the average number of days required by each variety from the date of sowing to ripening. This table is arranged in Cereal Variety Zones, but as information in connection with comparative maturity periods in Zones 2C, 2D and 3H was only of a limited nature, the results in these zones are not included in the following discussion.

In two zones in the central and west-central areas Prospect was slightly later than some of the other varieties, and in the extreme north it was somewhat later than most of the varieties, but in nine out of the fourteen zones under review it ranked first in earliness. In the two northern zones O.P.R. 1 required a shorter maturity period than any of the other varieties, and in most of the other zones it ranked second to Prospect. Some variation occurred between the comparative earliness of Rex and Newal in the different zones, but in general the differences were not of a marked nature. In most zones Plush was somewhat later than any of the other varieties. Taking the tests as a whole, Prospect required an average of 87.9 days to reach maturity, ripening earlier than the other varieties by the following differences: O.P.R. 1 .9 day, Newal 1.0 day, Rex 1.6 days and Plush 2.3 days.

TABLE No. 4.—AVERAGE PLANT HEIGHT IN INCHES

Cereal Variety Zone	O.P.R. 1	Plush	Rex	Newal	Prospect
1A	29.1	28.5	28.3	29.5	28.8
1B	21.6	24.2	23.8	24.2	24.0
2A	28.8	29.8	29.0	28.5	29.0
2B	28.3	28.5	27.3	27.8	27.3
2C	30.0	31.0	30.0	29.0	31.0
2D	No test available				
2E	29.3	28.3	29.7	30.0	28.3
2F	31.5	29.5	31.0	31.5	29.5
3A	34.0	33.1	33.6	33.1	32.0
3B	32.1	31.5	32.5	32.1	29.0
3C	32.2	32.2	31.9	32.3	29.8
3D	33.0	36.0	36.0	31.0	31.5
3E	26.7	27.3	27.3	27.1	25.1
3F	33.0	32.5	33.5	32.0	31.0
3H	40.0	37.0	39.0	38.0	33.0
4A	34.5	35.2	35.0	34.2	31.0
4B	31.6	31.0	33.4	33.4	31.6

HEIGHT OF PLANTS

In Table No. 4 the height in inches of each variety is shown by Cereal

Variety Zones. From this table it will be observed that there was some variation in the comparative heights in the different zones. Taking the project as a whole, however, there was little difference between O.P.R. 1, Plush, Rex, and Newal, but these varieties exceeded Prospect by from approximately 1 to 1½ inches.

TABLE No. 5.—COMPARISON OF STRAW STRENGTH IN CEREAL VARIETY ZONES

Cereal Variety Zone	O.P.R. 1	Plush	Rex	Newal	Prospect
1A	8.2	8.7	8.5	8.1	8.7
1B	8.2	8.1	8.8	8.6	8.7
2A	8.8	9.0	8.7	8.5	8.8
2B	8.2	7.8	8.9	8.4	8.3
2C	9.2	10.0	9.2	9.3	10.0
2D	No test available				
2E	8.3	8.5	9.3	7.8	8.1
2F	5.5	7.0	5.6	6.1	5.5
3A	7.7	8.8	9.0	7.5	7.7
3B	8.9	8.5	8.8	8.9	8.6
3C	8.1	8.0	8.5	8.2	8.4
3D	8.1	8.3	9.1	8.7	8.8
3E	9.4	9.3	9.4	9.2	9.5
3F	3.9	4.3	4.7	4.1	4.6
3H	7.5	7.5	8.5	7.0	7.5
4A	9.3	9.0	9.5	9.2	9.9
4B	7.7	8.4	9.2	7.1	8.2

STRAW STRENGTH

Straw strength was reported on the basis of 0-10, 10 being recorded if the plants were straight and erect. If the plants tended to lean slightly or were slightly curved at the base, the straw strength would be shown as "9." The greater the lean, the greater proportion of leaning plants, the lower the figure shown, until, if the plants were flat upon the ground, they would receive 0 for straw strength. Table No. 5 shows the strength of straw of the different varieties in Cereal Zones, based on the markings 0 to 10 as mentioned above. In nine out of the sixteen zones for which data are available, Rex excelled, and in the remaining zones it was superior to two or three of the other varieties. Prospect excelled or tied with another variety for top place in four zones, and in most of the other zones it was relatively satisfactory. Some variation was shown in the comparative strength of straw of Plush, but on the whole it ranked third to Rex and Prospect. In some zones O.P.R. 1 showed superiority to Newal, but in other zones the situation was reversed. In general O.P.R. 1 and Newal tied in this characteristic. It should be added that Rex, on account of its heavy stooling, gives the appearance of lacking straw strength, although over a period of years at experiment stations it has excelled Plush, Prospect and Newal.

TABLE No. 6.—COMPARISON OF NECK STRENGTH IN CEREAL VARIETY ZONES

Cereal Variety Zone	O.P.R. 1	Plush	Rex	Newal	Prospect
1A	2.0	1.6	2.0	2.4	1.6
1B	2.0	1.6	1.6	2.1	2.1
2A	1.7	1.3	1.4	1.8	1.8
2B	2.0	1.8	1.6	1.9	1.8
2C	1.5	1.0	1.7	3.0	1.0
2D	No test available				
2E	2.3	2.0	1.6	2.5	2.0
2F	2.0	1.6	1.5	2.6	1.5
3A	1.9	1.6	1.4	2.2	2.1
3B	1.1	1.0	1.0	1.5	1.0
3C	1.9	1.6	1.6	2.2	1.6
3D	1.9	1.1	1.1	3.0	2.2
3E	1.6	1.5	1.6	2.0	1.6
3F	1.8	1.7	1.8	2.3	2.0
3H	1.5	1.0	1.0	3.0	2.0
4A	1.6	1.0	1.2	2.2	1.3
4B	2.1	1.3	1.6	2.0	1.7

NECK STRENGTH

Neck strength was reported on the basis of strong, medium, and weak. If the neck was satisfactory the figure 1 was used. If only a few of the stems broke at the neck then "2" was shown as the neck strength. If numerous heads drooped or fell off the figure "3," indicating weak, was used. Thus the smaller the figure shown, the stronger the neck appeared. Table No. 6 shows the neck strength of each variety in the different zones. Plush excelled in this characteristic in most zones, but in general it was followed closely by Rex. While some variation occurred in the different zones, on the whole the difference in the neck strengths of O.P.R. 1 and Prospect was not of a marked nature. Newal equalled or was slightly superior to one of the other varieties in a few zones, but taking the project as a whole, it was decidedly inferior to any of the other varieties in this characteristic.

TABLE No. 7.—AVERAGE WEIGHT PER MEASURED BUSHEL SUMMARIZED IN CEREAL VARIETY ZONES

Cereal Variety Zone	O.P.R. 1	Plush	Rex	Newal	Prospect
1A	49.8	47.3	51.0	48.1	48.4
1B	48.0	44.6	49.2	46.2	45.7
2A	48.7	47.1	51.4	47.4	47.2
2B	47.3	46.1	49.8	47.3	46.2
2C	47.0	46.5	51.0	47.5	46.0
2D	No test available				
2E	50.5	47.0	50.0	48.1	48.0
2F	49.0	47.2	50.5	50.2	46.7
3A	49.0	47.4	51.2	48.1	48.1
3B	49.1	47.9	50.9	49.1	47.1
3C	49.0	46.6	49.3	48.9	47.8
3D	48.7	47.7	51.0	50.0	47.7
3E	47.5	45.7	49.7	48.2	44.5
3F	49.5	48.2	51.8	51.3	48.7
3H	49.0	47.0	53.0	51.0	47.5
4A	47.7	46.2	50.2	48.5	45.8
4B	47.7	46.5	50.5	49.0	45.9

WEIGHT PER MEASURED BUSHEL

Table No. 7 shows the average weight of each variety summarized in Cereal Variety Zones. Weights were taken on cleaned samples. As it will be observed, with one exception Rex excelled in all zones. The exception was in Zone 2E where Rex was outweighed by O.P.R. 1 by a difference of .5 lb. In seven out of the sixteen zones under review O.P.R. 1 either ranked second or equalled Newal in ranking second to Rex. In the northern zones, however, O.P.R. 1 was consistently outweighed by both Rex and Newal. While some variation occurred in the different zones, in general Prospect ranked fourth in bushel weight. Plush was low in weight in nine out of the sixteen zones. It showed its best comparative weight in some of the east-central and northern areas where it outweighed Prospect but was exceeded by the other varieties. Taking the tests as a whole, Rex showed an average bushel weight of 50.5 lbs., exceeding the other varieties by the following differences: O.P.R. 1 1.7 lbs., Newal 2.1 lbs., Prospect 3.3 lbs., and Plush 3.7 lbs.

TABLE No. 8.—COMMERCIAL GRADES IN PERCENTAGE

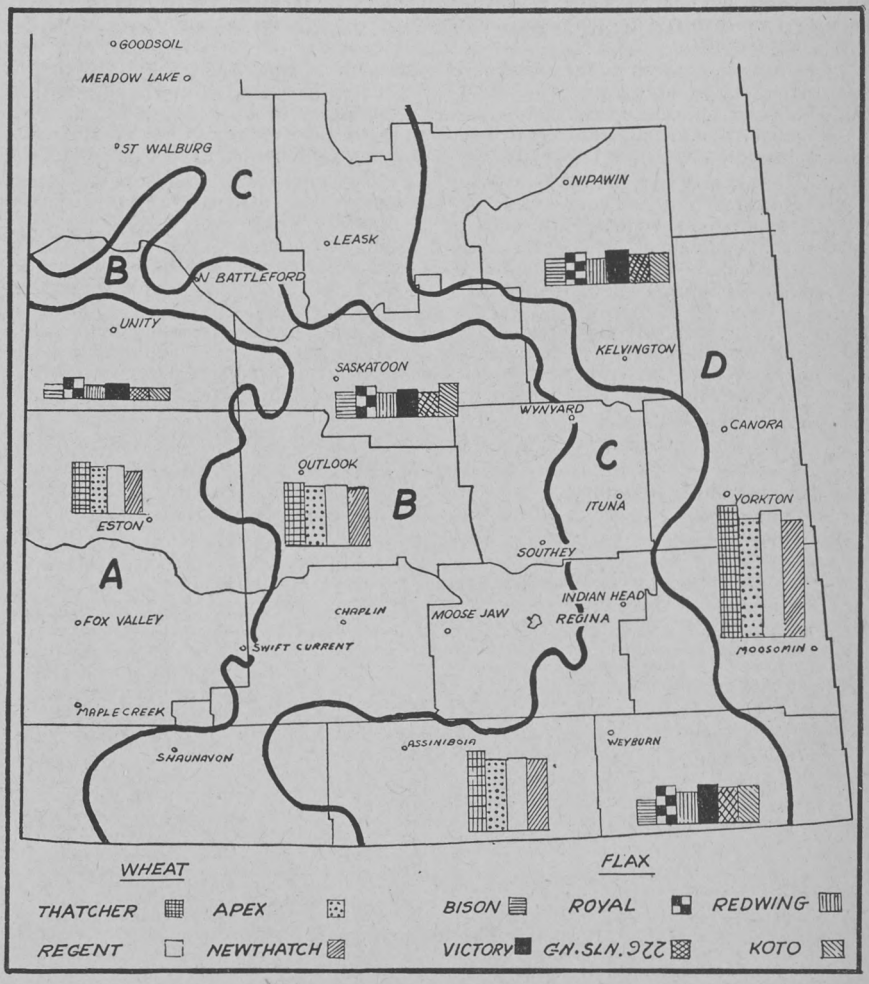
	1 C.W. 6-Row	2 C.W. 6-Row	1 C.W. 2-Row	2 C.W. 2-Row	3 C.W. 6-Row	1 Feed	2 Feed	3 Feed
O.P.R. 1	8.5	23.7	....	....	19.7	41.4	6.7	....
Plush	....	....	....	....	36.3	41.1	17.5	5.1
Rex	....	....	13.5	30.9	....	51.2	4.4	....
Newal	....	....	....	....	53.4	35.8	9.7	1.1
Prospect	....	....	....	....	40.8	35.4	20.0	3.8

COMMERCIAL GRADES

Table No. 8 shows the commercial grades in percentage of each variety used in the test. Rex graded well, 44 percent of this variety being placed in the 1 C.W. and 2 C.W. 2-Row classes. O.P.R. 1 also graded comparatively well,

nearly 33 percent of the samples being in the 1 C.W. and 2 C.W. 6-Row classes. Of the three six-rowed smooth-awned varieties, Newal excelled. There was little difference between the comparative grades of Plush and Prospect, although of these varieties Prospect was slightly superior.

Note.—As O.P.R. 1 was developed with a view to satisfying the need of a comparatively smooth-awned barley which would not only be satisfactory for feeding purposes but also acceptable to the maltsters, the grading of this variety was carried out on the assumption that it was equal for malting purposes to O.A.C. 21.



Map showing areas A, B, C and D, in which results of wheat and flax tests were tabulated, with histograms showing yield in bushels per acre—wheat and flax only.

(For explanation see page 37)

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

Probably the most useful summarization of the data from this series of variety tests is that which shows for each cereal variety zone the data on the different varieties for each important characteristic. In the following tables and discussions the data have been studied on the basis of these Cereal Variety Zones.

Readers are reminded that the results of tests during a single year in a zone, no matter how comprehensive they may be, do not constitute satisfactory information upon which to base the choice of a variety to use. The results of several years of tests are needed. Often a less worthy variety suffers less from the weather conditions in a given season than does a superior variety.

In this connection the reader is referred to the Saskatchewan Grain Variety Recommendations for 1944, a printed circular available free on request from the Extension Department, University of Saskatchewan, Saskatoon, or the Saskatchewan Department of Agriculture, Regina, or your nearest Dominion Experiment Station, or the Saskatchewan Wheat Pool, Regina.

In analyzing the grain yield results calculations were made on the yield data obtained within each zone to determine the "necessary difference" required between varieties for odds of at least 19:1 that one variety yielded, under the conditions of the tests and irrespective of soil variability, more than another. If the difference between two varieties equals or exceeds the necessary difference it is considered to be important; that is, the higher yielding variety is considered to be significantly higher yielding than the other. The reader will be interested to know that modern variety tests such as these are planned in a mathematical manner in order (1) that the tests will be fair, with all varieties placed and treated as nearly as possible alike, and (2) that the test will be sensitive and reveal statistically any varietal superiority that exists.

It should be mentioned that in nearly all zones the varieties differed in their excellence depending on rainfall and other environmental conditions.

It must be stressed, therefore, that in analyzing the grain yield results in the report the averages of all tests in each zone were taken as the basic performance.

TABLE No. 9.—SUMMARIZED RESULTS FOR ZONE 1A

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	26.2	32.5	29.1	28.8	26.3
Days from sowing to ripening	87.4	89.2	88.9	87.7	86.3
Height of plants in inches	29.1	28.5	28.3	29.5	28.8
Straw strength	8.2	8.7	8.5	8.1	8.7
Neck strength	2.0	1.6	2.0	2.4	1.6
Bushel weight in pounds	49.8	47.3	51.0	48.1	48.4
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	16	....	....
2 C.W. 2-Row	....	....	37	....	....
1 C.W. 6-Row	21	....	....	....	....
2 C.W. 6-Row	32	....	....	....	....
3 C.W.	16	58	....	69	79
1 Feed	31	16	48	26	16
2 Feed	....	26	....	5	5

Necessary Difference—2.1 bus.

Cereal Variety Zone 1A

Table No. 9 shows the summarized results for Zone 1A. **Grain Yield.**—Plush was the highest yielder, exceeding the other varieties by the following differences: Rex 3.4 bus., Newal 3.7 bus., Prospect 6.2 bus., and O.P.R. 1 6.3 bus. All of these differences are significant. Rex and Newal yielded significantly more than O.P.R. 1 and Prospect. **Earliness.**—Prospect matured earlier than the other varieties by the following differences: O.P.R. 1 1.1 days, Newal 1.4 days, Rex 2.6 days, and Plush 2.9 days. **Height.**—Newal excelled. It was only

slightly taller than O.P.R. 1, but exceeded the other varieties by approximately 1 inch. **Straw Strength.**—Plush and Prospect tied and ranked first in this characteristic. They were, however, followed closely by the other varieties in the order named: Rex, O.P.R. 1 and Newal. **Neck Strength.**—Plush and Prospect also tied in neck strength. These varieties were slightly superior to O.P.R. 1 and Rex, and decidedly superior to Newal. **Weight.**—Rex outweighed the other varieties by the differences shown: O.P.R. 1 1.2 lbs., Prospect 2.6 lbs., Newal 2.9 lbs., and Plush 3.7 lbs. **Grades.**—Light weight or green kernels appeared in a number of samples of all varieties. Prospect showed the smallest percentage of defects of this nature, and this factor combined with comparatively good bushel weight, resulted in this variety exceeding the other two six-rowed smooth-awned varieties in commercial grades. With excellent bushel weight Rex graded relatively well, more than fifty percent of the samples being placed in the 1 and 2 C.W. classes. O.P.R. 1 also graded comparatively well, 53 percent of the samples being placed in the 1 C.W. and 2 C.W. classes. **Rust.**—Some stem rust was recorded, the percentage of infection on O.P.R. 1 and Rex being somewhat more than the infection appearing on the other varieties. Leaf rust was also recorded, O.P.R. 1 showing slightly more infection than the other varieties. **Smut.**—The number of loose smutted heads appearing in Plush and Prospect were more or less equal. These varieties showed somewhat more diseased heads than Newal and decidedly more than were in evidence in O.P.R. 1 and Rex. A small and almost equal percentage of covered smut was recorded in all varieties. **Shattering.**—Losses were relatively light and only slight differences were reported. **1943 Results and Official Recommendations.**—Plush was the highest yielder, and although Newal was slightly superior to this variety in earliness, bushel weight, and commercial grades, these factors would hardly compensate for the difference in grain yield. Prospect was decidedly low in yield. It weighed and graded somewhat better than the other two six-rowed smooth-awned varieties, but its yield inferiority, particularly to Plush, would suggest that under climatic conditions such as existed in 1943 this variety would not show any outstanding merit. Rex ranked second to Plush in grain yield. It excelled in bushel weight, showed comparatively good grades, and was reasonably satisfactory in other characteristics. O.P.R. 1 was low in yield, and although it showed reasonably good weight and commercial grades, it was not outstanding in any characteristic. In general it would appear from the results of this test that Plush and Rex were the most satisfactory, but the two varieties officially recommended on the basis of a long-time average are Prospect and Rex.

TABLE No. 10.—SUMMARIZED RESULTS FOR ZONE 1B

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	13.4	18.6	17.2	16.8	15.7
Days from sowing to ripening	81.5	82.2	81.7	81.2	81.7
Height of plants in inches	21.6	24.2	23.8	24.2	24.0
Straw strength	8.2	8.1	8.8	8.6	8.7
Neck strength	2.0	1.6	1.6	2.1	2.1
Bushel weight in pounds	48.0	44.6	49.2	46.2	45.7
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	66	....	....
2 C.W. 6-Row	33	....	....	....	....
3 C.W.	50	33	....	33	49
1 Feed	17	17	34	17	17
2 Feed	....	17	....	33	17
3 Feed	....	33	....	17	17

Necessary difference—4.5 bus.

Cereal Variety Zone 1B

The summarized results for Zone 1B are shown in Table No. 10. **Grain Yield.**—Plush excelled, outyielding the other varieties by the following differences: Rex 1.4 bus., Newal 1.8 bus., Prospect 2.9 bus., and O.P.R. 1 5.2 bus., but only in the case of Plush and O.P.R. 1 was the difference significant. There were no significant differences between the yields of the other varieties. **Earliness.**—Very little difference appeared in the maturity period of any of the varieties, Newal ripening earlier than the others by differences ranging from .3 day to 1 day. **Height.**—Plush and Newal tied. These varieties exceeded Rex and Prospect by only small differences. They were, however, 2.6 inches taller than O.P.R. 1. **Straw Strength.**—There was little difference between the varieties,

but Rex was superior and Plush inferior in this characteristic. **Neck Strength.**—Plush and Rex tied and were slightly superior to O.P.R. 1, while the latter variety was only slightly superior to Newal and Prospect which also tied. **Weight.**—Rex excelled, outweighing the other varieties by the following differences: O.P.R. 1 1.2 lbs., Newal 3 lbs., Prospect 3.5 lbs., and Plush 4.6 lbs. **Grades.**—Some light weight and green kernels were in evidence in nearly all samples, but O.P.R. 1 and Rex appeared to show slightly less defects than the other varieties. There was little difference in the grades of the three six-rowed smooth-awned varieties, although Prospect showed a slight superiority over the others. Because of green kernels some of the samples of Rex fell into the feed class, but in general this variety graded well. O.P.R. 1 showed relatively good grades, one-third of the samples of this variety reaching the 2 C.W. class. **Rust.**—No stem or leaf rust was reported. **Smut.**—Only a few loose smutted heads were in evidence in O.P.R. 1 and Plush, the other varieties were free. A slight trace of covered smut was reported in the Plush variety only. **Shattering.**—A relatively high percentage of shattering was recorded, but the loss sustained was more or less equal in all varieties. **1943 Results and Official Recommendations.**—Although Plush excelled in yield it was low in bushel weight and was slightly inferior to the other two smooth-awned varieties in commercial grades. However, in its general performance it appeared to be somewhat superior to Newal or Prospect. Rex yielded comparatively well, excelled in bushel weight and grades, and was generally satisfactory in other characteristics. O.P.R. 1 was low in yield and although it showed some merit, particularly in bushel weight and commercial grades, these advantages would hardly compensate for its yield inferiority. In general, Plush and Rex appeared to most advantage in this test, but Prospect and Rex are the two varieties officially recommended.

TABLE No. 11.—SUMMARIZED RESULTS FOR ZONE 2A

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	33.2	39.7	38.3	42.1	39.5
Days from sowing to ripening	86.2	87.8	87.0	87.6	85.4
Height of plants in inches	28.8	29.8	29.0	28.5	29.0
Straw strength	8.8	9.0	8.7	8.5	8.8
Neck strength	1.7	1.3	1.4	1.8	1.8
Bushel weight in pounds	48.7	47.1	51.4	47.4	47.2
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	50	....	....
2 C.W. 2-Row	....	....	50	....	....
1 C.W. 6-Row	13	....	....	....	....
2 C.W. 6-Row	50	....	....	....	....
3 C.W.	25	63	....	75	63
1 Feed	....	12	....	....	12
2 Feed	12	25	....	25	25

Necessary difference—4.8 bus.

Cereal Variety Zone 2A

The results for Cereal Variety Zone 2A appear in Table No. 11. **Grain Yield.**—It will be noted that in this zone Newal excelled, outyielding the other varieties by the following differences: Plush 2.4 bus., Prospect 2.6 bus., Rex 3.8 bus., and O.P.R. 1 8.9 bus. Only in the case of O.P.R. 1 did Newal outyield any of the varieties by a difference which exceeded the necessary difference for the zone. O.P.R. 1 was also significantly outyielded by Plush, Prospect and Rex. None of the other differences were significant. **Earliness.**—Prospect excelled, maturing earlier than the other varieties by differences which ranged from .8 day to 2.4 days. **Height.**—Plush was the tallest variety, exceeding Rex and Prospect by .8 inch, O.P.R. 1 by 1 inch, and Newal by 1.3 inches. **Straw Strength.**—Plush excelled, but was followed closely by the other varieties in the order named, O.P.R. 1, Prospect, Rex and Newal. **Neck Strength.**—Plush also excelled in this characteristic, although it was only slightly superior to Rex and its superiority to the other varieties was not of a marked nature. **Weight.**—Rex outweighed the other varieties by the following differences: O.P.R. 1 2.7 lbs., Newal 4 lbs., Prospect 4.2 lbs., and Plush 4.3 lbs. **Grades.**—Light weight, green, or weathered kernels were in evidence in a number of samples, but O.P.R. 1 showed somewhat less defects of this nature than the other varieties. As might be expected, because of its excellent bushel weight,

Rex excelled in commercial grades. O.P.R. 1 graded fairly well in most tests. Newal graded somewhat better than the other two six-rowed smooth-awned varieties. **Rust.**—Light stem rust infection was reported, the percentage of infection appearing on Rex being somewhat more than on the other varieties. The percentage of leaf rust recorded was almost equal on all varieties. **Smut.**—Prospect showed decidedly more loose smutted heads than O.P.R. 1, while the latter variety was somewhat more infected than Newal. Rex and Plush were comparatively free. No covered smut was reported. **Shattering.**—Small and almost equal losses were sustained by all varieties. **1943 Results and Official Recommendations.**—From these results there appeared to be ltitle difference between the six-rowed smooth-awned varieties, although of the three the general performance of Newal proved most satisfactory. The two-rowed Rex excelled in bushel weight and showed good commercial grades. In other characteristics it was reasonably satisfactory, and from these results it would appear to warrant consideration when a variety is being chosen for this zone. The semi-smooth awned variety O.P.R. 1 weighed and graded reasonably well, but it was significantly outyielded by all of the other varieties and was not outstanding in any characteristic. Plush, Prospect and Rex are officially recommended.

TABLE No. 12.—SUMMARIZED RESULTS FOR ZONE 2B

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	25.6	29.8	27.7	28.4	21.1
Days from sowing to ripening	87.4	87.6	87.0	86.8	87.8
Height of plants in inches	28.3	28.5	27.3	27.8	27.3
Straw strength	8.2	7.8	8.9	8.4	8.3
Neck strength	2.0	1.8	1.6	1.9	1.8
Bushel weight in pounds	47.3	46.1	49.8	47.3	46.2
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	50	....	....
2 C.W. 6-Row	13	....	....	....	....
3. C.W.	....	....	....	37	13
1 Feed	50	63	37	50	37
2 Feed	37	37	13	13	37
3 Feed	....	....	....	....	13

Necessary difference—4.1 bus.

Cereal Variety Zone 2B

The results for Cereal Variety Zone 2B appear in Table No. 12. **Grain Yield.**—Plush led in this zone and yielded significantly more than Prospect and O.P.R. 1. The differences between O.P.R. 1, Rex and Newal were non-significant, but all varieties yielded significantly more than Prospect. **Earliness.**—There was little difference in the maturity periods of any of the varieties. **Height.**—O.P.R. 1 and Plush were almost equal, exceeding the other varieties by differences ranging from .7 inch to 1.2 inches. **Straw Strength.**—Rex excelled, being followed by the other varieties in the order named: Newal, Prospect, O.P.R. 1 and Plush. **Neck Strength.**—Rex also excelled in this characteristic. Plush and Prospect tied and were only slightly inferior to Rex. Newal was only slightly superior to O.P.R. 1. **Weight.**—Rex outweighed the other varieties by the following differences: O.P.R. 1 and Newal 2.5 lbs., Prospect 3.6 lbs., and Plush 3.7 lbs. **Grades.**—Light weight, green, or weathered kernels were in evidence in nearly all samples. Newal appeared to show slightly less defects than the other varieties, and because of this, of the three six-rowed smooth-awned varieties, Newal ranked first in commercial grades. Rex graded comparatively well, 50 percent of the samples being placed in the 2 C.W. class. Only 13 percent of the samples of O.P.R. 1 graded 2 C.W. 6-Row, the others falling into the feed classes. **Rust.**—A very slight percentage of stem rust infection was recorded, Rex appearing to be somewhat more infected than the other varieties. Leaf rust infection was more or less equal in all varieties, although here again the percentage of infection on Rex was reported to be slightly more than that appearing on the others. **Smut.**—Prospect showed a considerable number of loose smutted heads and more diseased heads appeared in Plush and Newal than in Rex. O.P.R. 1 was almost free. A small and equal amount of covered smut was reported in all varieties. **Shattering.**—Some losses were recorded, O.P.R. 1 and Newal sustaining somewhat more loss than the other varieties. **1943 Results and Official Recommendations.**—Plush was the highest yielder, yielding significantly

more than Prospect and O.P.R. 1. It was, however, low in bushel weight and commercial grades. Newal showed a comparatively good yield and was reasonably satisfactory in other characteristics. Prospect was decidedly low in yield and although it was superior to other varieties in some characteristics, these advantages did not compensate its yield inferiority. The two-rowed Rex yielded fairly well. It excelled in straw and neck strength, was high in bushel weight, and showed comparatively good grades. O.P.R. 1, while outyielding Prospect, was not outstanding in any characteristic. In general the results of this test indicate that Newal and Rex were the varieties most worthy of consideration for use in this zone, and they, along with Plush, are both listed in the Saskatchewan Cereal Committee's Recommendations for 1944.

Cereal Variety Zone 2C

Only one test was available in Zone 2C. This test was conducted by David John Hamm of Neville, and the data are presented in the individual results appearing on page 57.

Cereal Variety Zone 2D

The tests in this zone were destroyed and no data are available.

TABLE No. 13.—SUMMARIZED RESULTS FOR ZONE 2E

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	22.3	28.3	25.2	26.8	22.8
Days from sowing to ripening	88.0	89.7	87.7	88.7	86.3
Height of plants in inches	29.3	28.3	29.6	30.0	28.3
Straw strength	8.3	8.5	9.3	7.8	8.1
Neck strength	2.3	2.0	1.6	2.5	2.0
Bushel weight in pounds	50.5	47.0	50.0	48.1	48.0
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	17	....	....
2 C.W. 2-Row	....	....	17	....	....
2 C.W. 6-Row	50	....	....	....	....
3 C.W.	17	17	....	33	33
1 Feed	33	33	66	50	34
2 Feed	....	50	....	17	33

Necessary difference—4.3 bus.

Cereal Variety Zone 2E

Table No. 13 shows the summarized results for Cereal Variety Zone 2E. **Grain Yield.**—Plush excelled in this zone, outyielding the other varieties by the following differences: Newal 1.5 bus., Rex 3.1 bus., Prospect 5.5 bus., and O.P.R. 1 6.0 bus. Only in the case of the two latter varieties did the differences exceed the necessary difference for the zone. Newal yielded significantly more than O.P.R. 1, but there were no differences of a significant nature between any of the other varieties. **Earliness.**—Prospect excelled, exceeding the other varieties by differences as follows: Rex 1.4 days, O.P.R. 1, 1.7 days, Newal 2.4 days, and Plush 3.4 days. **Height.**—Newal exceeded Rex by only .4 inch and O.P.R. 1 by only .7 inch, but it was 1.7 inches taller than Plush and Prospect. **Straw Strength.**—Rex excelled, being superior to O.P.R. 1 and Plush. The two latter varieties were slightly superior to Prospect. Newal showed the weakest straw. **Neck Strength.**—Rex also excelled in neck strength, but was only slightly superior to Prospect and Plush. O.P.R. 1 showed only slight superiority to Newal. **Weight.**—O.P.R. 1 excelled in this zone. It exceeded Rex by only .5 lb., but outweighed the other varieties by the following differences: Newal 2.4 lbs., Prospect 2.5 lbs., and Plush 3.5 lbs. **Grades.**—Green or light weight kernels appeared in nearly all samples. In 50 percent of the samples O.P.R. 1 graded 2 C.W. and in general this variety excelled in commercial grades. Some of the samples of Rex also graded well but weathered and green kernels resulted in lower grades in other samples. Newal graded slightly better than Prospect and both of these varieties showed somewhat better grades than Plush. **Rust.**—Light stem rust infection was reported on all varieties, Prospect appearing to be somewhat more infected than the others. A more or less equal amount of leaf rust infection was recorded on all varieties. **Smut.**—Prospect

showed considerably more loose smutted heads than any of the other varieties, while the number of diseased heads apparent in Plush was somewhat more than the number appearing in Rex and Newal, and decidedly more than in O.P.R. 1. Light traces of covered smut were also noted, Newal and Prospect being somewhat more infected than the other varieties. **Shattering.**—Fairly heavy and almost equal losses were sustained by all varieties. **1943 Results and Official Recommendations.**—Plush excelled in yield but was low in bushel weight and commercial grades. Newal ranked second in yield and although it was somewhat weak in straw and neck it was reasonably satisfactory in other characteristics and in general was somewhat superior to Prospect. The two-rowed variety Rex yielded fairly well and although because of green and weathered kernels a number of samples fell into the feed class, it showed good bushel weight and excelled in straw and neck strengths. O.P.R. 1 was low in yield but excelled in bushel weight and a number of samples showed comparatively good grades. In general it would appear that from the results in this zone the performances of Plush, Newal and Rex were superior to the other varieties, but of the varieties used in the test Plush, Prospect and Rex are officially recommended.

TABLE No. 14.—SUMMARIZED RESULTS FOR ZONE 2F

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	38.8	37.7	31.3	39.7	32.1
Days from sowing to ripening	87.0	88.0	87.5	87.5	87.0
Height of plants in inches	31.5	29.5	31.0	31.5	29.5
Straw strength	5.5	7.0	5.6	6.1	5.5
Neck strength	2.0	1.6	1.5	2.6	1.5
Bushel weight in pounds	49.0	47.2	50.5	50.2	46.7
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	50	....	....
2 C.W. 6-Row	50	....	....	....	....
3 C.W.	....	50	....	50	50
1 Feed	50	50	50	50	50

Necessary difference—Insufficient data (two tests).

Cereal Variety Zone 2F

The results for Zone 2F appear in Table No. 14. Only two tests were available for analysis in this zone and the results are based on the average of these two tests. **Grain Yield.**—Newal was the highest yielder, exceeding the other varieties by the following differences: O.P.R. 1 .9 bus., Plush 2 bus., Prospect 7.6 bus., and Rex 8.4 bus. **Earliness.**—O.P.R. 1 and Prospect tied. They exceeded Rex and Newal by only .5 day, but were 1 day earlier than Plush. **Height.**—O.P.R. 1 and Newal tied. These varieties were .5 inch taller than Rex and 2 inches taller than Plush and Prospect. **Straw Strength.**—All varieties showed comparatively weak straw. Plush excelled and was followed by Newal and Rex in the order named. O.P.R. 1 and Prospect tied and were only slightly inferior to Rex. **Neck Strength.**—Rex and Prospect were equal in this characteristic and were slightly superior to Plush, somewhat superior to O.P.R. 1, and decidedly superior to Newal. **Weight.**—Rex excelled, but exceeded Newal by only .3 lb. It outweighed the other varieties, however, by the following differences: O.P.R. 1 1.5 lbs., Plush 3.3 lbs., and Prospect 3.8 lbs. **Grades.**—Badly weathered kernels were in evidence in all samples and this factor had a distinct bearing on commercial grades. The three six-rowed smooth-awned varieties tied. In one test Rex and O.P.R. 1 graded 2 C.W., but in the other test because of weathered kernels these varieties were placed in the 1 Feed class. **Rust, Smut, Shattering.**—No rust or smut infection and no loss by shattering was recorded. **1943 Results and Official Recommendations.**—While only very limited data are available, of the three six-rowed smooth-awned varieties, the performance of Newal appeared to be most satisfactory. Rex was low in yield but was high in bushel weight, and in one test it graded comparatively well. O.P.R. 1 was reasonably satisfactory in grain yield, bushel weight, and commercial grades, and although these results are by no means conclusive, they suggest that O.P.R. 1 might prove a useful variety in this part of the Province. Newal, Prospect and Rex are officially recommended for use in this zone.

TABLE No. 15.—SUMMARIZED RESULTS FOR ZONE 3A

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	42.6	45.2	44.5	45.3	37.0
Days from sowing to ripening	85.2	86.3	86.5	86.0	84.5
Height of plants in inches	34.0	33.1	33.6	33.1	32.0
Straw strength	7.7	8.8	9.0	7.5	7.7
Neck strength	1.9	1.6	1.4	2.2	2.1
Bushel weight in pounds	49.0	47.4	51.2	48.1	48.1
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	40	....	....
2 C.W. 2-Row	....	....	10	....	....
1 C.W. 6-Row	10	....	....	....	....
2 C.W. 6-Row	40	....	....	....	....
3 C.W.	....	30	....	50	50
1 Feed	30	50	50	30	30
2 Feed	20	10	....	20	20
3 Feed	....	10	....	....	....

Necessary difference—3.7 bus.

Cereal Variety Zone 3A

Table No. 15 shows the summarized results for Zone 3A. **Grain Yield.**—Newal and Plush were almost equal and exceeded the other varieties by differences which ranged from .8 bus. to 8.3 bus. Only in the case of Prospect, however, which was significantly outyielded by all varieties, did the difference exceed the necessary difference for the zone. **Earliness.**—Prospect, maturing in 84.5 days, ripened .7 day earlier than O.P.R. 1, and from 1.5 to 2 days earlier than the other varieties. **Height.**—O.P.R. 1 excelled. It exceeded Rex, however, by only .4 inch, but was nearly 1 inch taller than Plush or Newal and 2 inches taller than Prospect. **Straw Strength.**—Rex was slightly superior to Plush and decidedly superior to O.P.R. 1 and Prospect. The two latter varieties tied in this characteristic and were slightly superior to Newal. **Neck Strength.**—Rex excelled but was followed closely by Plush, O.P.R. 1, Prospect and Newal, in the order named. **Weight.**—Rex also excelled in weight per measured bushel, exceeding the other varieties by differences as follows: O.P.R. 1 2.2 lbs., Newal and Prospect 3.1 lbs., and Plush 3.8 lbs. **Grades.**—Light weight, green and weathered kernels were in evidence in nearly all samples, although O.P.R. 1 and Newal appeared to have slightly less defects than the other varieties. As could be expected, because of its good bushel weight the two-rowed Rex graded relatively well. A number of samples of O.P.R. 1 were placed in the 1 C.W. and 2 C.W. classes, but others graded 1 and 2 Feed. Of the three six-rowed smooth-awned varieties Newal and Prospect tied and were slightly superior to Plush. **Rust.**—There were a number of tests where traces of stem rust were in evidence. Rex appeared to show most infection, while O.P.R. 1 was almost free. Leaf rust infection was reported in nearly all tests. Rex and Prospect were most heavily infected but in general there was little difference in the degree of infection appearing on any of the varieties. **Smut.**—All varieties showed some loose smutted heads, but the disease was most apparent in Plush, Prospect and Newal. Light traces of covered smut were also reported in a few tests, Prospect being most affected. **Shattering.**—Some shattering occurred but there was little difference in the loss sustained by any of the varieties. **1943 Results and Official Recommendations.**—The results in this zone indicate that Rex is worthy of consideration when the choice of a variety is being made. Plush was somewhat superior to Newal in straw and neck strengths, while Newal slightly exceeded Plush in weight and was slightly superior to the latter variety in commercial grades. In general there was little difference between these two varieties, and in yield both exceeded the other six-rowed smooth-awned variety Prospect by significant differences. Although it yielded fairly well and was comparatively satisfactory in most characteristics, the performance of O.P.R. 1 was not outstanding. It must be considered, however, that the results of one year's tests are by no means conclusive in connection with any new variety. In general it would appear that from the data gathered, Rex, Plush and Newal showed to best advantage, but of these three only Rex and Plush are officially recommended.

TABLE No. 16.—SUMMARIZED RESULTS FOR ZONE 3B

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	38.9	40.5	33.2	43.4	31.7
Days from sowing to ripening	86.1	87.3	86.3	86.8	85.3
Height of plants in inches	32.1	31.5	32.5	32.1	29.0
Straw strength	8.9	8.5	8.8	8.9	8.6
Neck strength	1.1	1.0	1.0	1.5	1.0
Bushel weight in pounds	49.1	47.9	50.9	49.1	47.1
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	40	....	....
3 C.W. 6-Row	50	12	....	62	13
1 Feed	50	76	60	25	62
2 Feed	....	12	....	13	25

Necessary difference—4.4 bus.

Cereal Variety Zone 3B

Table No. 16 shows the summarized results for Cereal Variety Zone 3B. **Grain Yield.**—Newal excelled, outyielding the other varieties by the following differences: Plush 2.9 bus., O.P.R. 1 4.5 bus., Rex 10.2 bus., and Prospect 11.7 bus. The difference between Newal and Plush failed to equal the necessary difference for the zone, but Newal yielded significantly more than the other varieties. The difference between Plush and O.P.R. 1 was non-significant, but both of these varieties yielded significantly more than Rex or Prospect. **Earliness.**—Prospect excelled, exceeding the other varieties by the following differences: O.P.R. 1 .8 day, Rex 1 day, Newal 1.5 days, and Plush 2 days. **Height.**—Rex was the tallest variety, but it was only .4 inch taller than O.P.R. 1 and Newal. It exceeded Plush, however, by 1 inch and was 3.5 inches taller than Prospect. **Straw Strength.**—O.P.R. 1 and Newal tied and were followed closely by the other varieties in the order named: Rex, Prospect and Plush. **Neck Strength.**—Plush, Rex and Prospect tied and showed only slight superiority to O.P.R. 1 and Newal. **Weight.**—Rex excelled, outweighing the other varieties by the following differences: O.P.R. 1 and Newal 1.8 lbs., Plush 3 lbs., and Prospect 3.8 lbs. **Grades.**—An abundance of light weight, green, or weathered kernels appeared in nearly all samples, although the samples of O.P.R. 1 contained a smaller number of defective kernels than the other varieties. Because of comparatively good bushel weight and a smaller percentage of damaged kernels, Newal was superior to Plush and Prospect in commercial grades. Forty percent of the samples of Rex graded 2 C.W. 2-Row, but the balance fell into the 1 Feed class. The grades of O.P.R. 1 were not outstanding. **Rust.**—No stem rust was recorded. The percentage of leaf rust was more or less equal in all varieties. **Smut.**—Prospect showed decidedly more loose smutted heads than Plush and Newal, and the two latter varieties showed somewhat more diseased heads than Rex. O.P.R. 1 was comparatively free. A small and almost equal percentage of covered smut was reported in all varieties. **Shattering.**—Some light shattering was reported, the loss sustained by O.P.R. 1, Plush and Prospect being almost twice the loss reported in the other varieties. **1943 Results and Official Recommendations.**—Newal excelled in grain yield, but it failed to yield significantly more than Plush. Newal, however, was superior to the latter variety in earliness, height, straw strength, weight and commercial grades. Prospect was decidedly low in yield and was inferior to Plush and Newal in both weight and grades. The yield of Rex was comparatively low, but it excelled in bushel weight, was reasonably satisfactory in grades and in a number of other characteristics. O.P.R. 1 yielded comparatively well and showed merit in many of its other characteristics. Its performance in the 1943 test suggests that it may prove useful in this zone. In general the results indicate that Newal, Plush and O.P.R. 1 were the most satisfactory as far as this test is concerned, but apart from O.P.R. 1, which is not included in the recommendations of the Cereal Variety Committee, of the varieties used in the 1943 project, Plush and Rex are officially recommended.

Cereal Variety Zone 3C

Summarized results for Cereal Variety Zone 3C appear in Table No. 17. **Grain Yield.**—Newal outyielded the other varieties in this zone by the following differences: Plush 2.4 bus., O.P.R. 1 4.2 bus., Rex 5.2 bus., and Prospect 10.3 bus. The difference between Newal and Plush failed to equal the necessary

TABLE No. 17.—SUMMARIZED RESULTS FOR ZONE 3C

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	35.9	37.7	34.9	40.1	29.8
Days from sowing to ripening	92.2	94.8	92.5	90.8	89.9
Height of plants in inches	32.2	32.2	31.9	32.3	29.8
Straw strength	8.1	8.0	8.5	8.2	8.4
Neck strength	1.9	1.6	1.6	2.2	1.6
Bushel weight in pounds	49.0	46.6	49.3	48.9	47.8
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	23	....	....
2 C.W. 2-Row	....	....	16	....	....
1 C.W. 6-Row	8	....	....	....	....
2 C.W. 6-Row	30	....	....	....	....
3 C.W.	24	30	....	69	38
1 Feed	30	46	61	23	46
2 Feed	8	8	....	8	16
3 Feed	....	16	....	....	....

Necessary difference—2.9 bus.

difference for the zone, but Newal yielded significantly more than the other varieties. The yield differences between Rex, O.P.R. 1 and Plush were non-significant, but all of these varieties outyielded Prospect by differences which were significant. **Earliness.**—Prospect excelled, maturing earlier than the other varieties by the following differences: Newal .9 day, O.P.R. 1 2.3 days, Rex 2.6 days, and Plush 4.9 days. **Height.**—Prospect was the shortest variety and Newal the tallest, and the difference between these two was 2.5 inches. **Straw Strength.**—Rex excelled but was followed closely by Prospect, Newal, O.P.R. 1 and Plush in the order named. **Neck Strength.**—Plush, Rex and Prospect tied and were slightly superior to O.P.R. 1 and somewhat superior to Newal. **Weight.**—Rex excelled but weighed only .3 lb. more than O.P.R. 1. Rex, however, exceeded the other varieties by the following differences: Newal .4 lb., Prospect 1.5 lbs., and Plush 2.7 lbs. **Grades.**—Some green, light weight, or weathered kernels appeared in many samples, although O.P.R. 1 and Newal appeared to be more free of these defects than the other varieties. Because of comparatively good weight and a smaller percentage of defective kernels, Newal was superior in commercial grades to either of the other two six-rowed smooth-awned varieties. In a number of samples the two-rowed Rex graded well, but because of defects mentioned above, more than 50 percent of the samples fell into the 1 Feed class. O.P.R. 1 graded comparatively well, 38 percent being placed in the 1 C.W. and 2 C.W. classes. **Rust.**—Light stem rust infection was in evidence, Plush and Rex being slightly more infected than the other varieties. Leaf rust was also recorded, the percentage of infection being more or less equal in all varieties. **Smut.**—The number of loose smutted heads appearing in Plush was somewhat higher than in Prospect and decidedly higher than in Rex and Newal. O.P.R. 1 was comparatively free of loose smut infection. A small and almost equal percentage of covered smut was reported in all varieties. **Shattering.**—Loss by shattering was only of a light nature, but the loss sustained by O.P.R. 1 and Prospect was approximately twice the loss suffered by the other varieties. **1943 Results and Official Recommendations.**—Newal excelled in yield. It was somewhat weak in the neck, but showed comparatively good weight and commercial grades and in other characteristics it was reasonably satisfactory. While Plush yielded fairly well

TABLE No. 18.—SUMMARIZED RESULTS FOR ZONE 3D

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	36.0	54.1	43.4	44.1	28.9
Days from sowing to ripening	103.0	104.0	103.5	103.5	102.5
Height of plants in inches	33.0	36.0	36.0	31.0	31.5
Straw strength	8.1	8.3	9.1	8.7	8.8
Neck strength	1.9	1.1	1.1	3.0	2.2
Bushel weight in pounds	48.7	47.7	51.0	50.0	47.7
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	50	....	....
2 C.W. 2-Row	....	....	50	....	....
1 C.W. 6-Row	50	....	....	....	....
2 C.W. 6-Row	50	....	....	....	....
3 C.W.	....	100	....	100	100

Necessary difference—Insufficient data.

it was low in commercial grades and was not outstanding in any other characteristic. Prospect was decidedly the lowest yielder. It excelled in earliness and appeared to be satisfactory in a number of characteristics, but its distinct yield inferiority indicates its unsuitability for use in this zone. The general performance of Rex was reasonably satisfactory and suggests its usefulness in this region. Only one year's comparative data are available in connection with O.P.R. 1, but in this zone it proved fairly satisfactory and the results indicate that this variety merits further investigation. Of the varieties used in the 1943 test, Plush and Rex are the two recommended by the Cereal Variety Committee.

Cereal Variety Zone 3D

The results obtained in Cereal Variety Zone 3D appear in Table No. 18. **Grain Yield.**—Only two tests were available in this zone and the results are based on the average results from these tests. Plush was the highest yielder, exceeding the other varieties by the following differences: Newal 10.0 bus., Rex 10.7 bus., O.P.R. 1 18.1 bus., Prospect 25.2 bus. **Earliness.**—The difference in maturity periods were not of a marked nature, Prospect ripening .5 day earlier than O.P.R. 1, 1 day earlier than Rex and Newal, and 1.5 days earlier than Plush. **Height.**—Plush and Rex tied, exceeding the other varieties by the following differences: O.P.R. 1 3 inches, Prospect 4.5 inches, and Newal 5 inches. **Straw Strength.**—Rex excelled but was followed closely by the other varieties in the order named: Prospect, Newal, Plush and O.P.R. 1. **Neck Strength.**—Rex and Plush tied and showed distinct superiority to the other varieties. **Weight.**—Rex excelled, outweighing the other varieties by the following differences: Newal 1 lb., O.P.R. 1 2.3 lbs., Plush and Prospect 3.3 lbs. **Grades.**—Apart from peeled kernels there were few defects and all varieties graded well. **Rust.**—Light stem rust was recorded, Prospect appearing to be somewhat more infected than the others. An equal amount of leaf rust infection was reported on all varieties. **Smut.**—Prospect showed twice the number of loose smutted heads as Plush and the latter variety showed approximately twice the number of diseased heads as Rex and Newal. O.P.R. 1 was practically free. A very light trace of covered smut was recorded in connection with Plush and Rex. The other varieties were free. **Shattering.**—The small loss by shattering was more or less equal in all varieties. **1943 Results and Official Recommendations.**—Only limited information is available from the 1943 test, but the results show that of the three smooth-awned six-rowed varieties Plush appeared to most advantage and was decidedly superior to Prospect. The two-rowed Rex yielded fairly well and excelled in straw and neck strengths and in bushel weight. It was also satisfactory in commercial grades. The semi-smooth awned variety O.P.R. 1 weighed and graded comparatively well but was somewhat low in yield and was not outstanding in any other characteristic. In general the results of this test would indicate that Plush, Newal and Rex are most worthy of consideration when the choice of a variety is being made, and all of these varieties are officially recommended for use in this zone.

The Barley Test of Gordon F. Tulloch of Broadview.

TABLE No. 19.—SUMMARIZED RESULTS FOR ZONE 3E

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	28.8	26.6	25.9	32.0	20.4
Days from sowing to ripening	91.1	92.0	93.5	91.2	89.0
Height of plants in inches	26.7	27.3	27.3	27.1	25.1
Straw strength	9.4	9.3	9.4	9.2	9.5
Neck strength	1.6	1.5	1.6	2.0	1.6
Bushel weight in pounds	47.5	45.7	49.7	48.2	44.5
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	44	....	....
2 C.W. 6-Row	11	....	....	....	....
3 C.W.	33	34	....	56	11
1 Feed	45	22	....	22	22
2 Feed	11	22	56	22	56
3 Feed	....	22	....	....	11

Necessary difference—3.4 bus.

Cereal Variety Zone 3E

The summarized results of Zone 3E appear in Table No. 19. **Grain Yield.**—Newal excelled in this zone. Averaging 32.0 bus. per acre it exceeded the other varieties by the differences shown: O.P.R. 1 1.2 bus., Plush 5.4 bus., Rex 6.1 bus., and Prospect 11.6 bus. The difference between Newal and O.P.R. 1 failed to equal the necessary difference for the zone, but Newal yielded significantly more than any of the other varieties. Prospect was decidedly the lowest yielder and was outyielded by all varieties by differences which are significant. There were no differences of a significant nature between any of the other varieties. **Earliness.**—Prospect excelled, ripening earlier than the other varieties by the following differences: O.P.R. 1 2.1 days, Newal 2.2 days, Plush 3 days, and Rex 4.5 days. **Height.**—Plush and Rex tied. Newal was almost equal to these varieties and O.P.R. 1 was only .6 inch shorter, but they exceeded Prospect by 2.2 inches. **Straw Strength.**—There was little difference in the comparative straw strengths but Prospect was slightly superior and Newal slightly inferior to the other varieties. **Neck Strength.**—Plush excelled but was only slightly superior to O.P.R. 1, Rex and Prospect. Newal was somewhat inferior to the latter varieties. **Weight.**—Rex outweighed the other varieties by the differences shown: Newal 1.5 lbs., O.P.R. 1 2.2 lbs., Plush 4.0 lbs., and Prospect 5.2 lbs. **Grades.**—Light weight, green, and weathered kernels were in evidence in a number of samples of all varieties, but O.P.R. 1 and Newal showed slightly less defects than the others. The latter variety showed comparatively good bushel weight and graded better than Plush or Prospect. The two-rowed Rex also weighed comparatively well but chiefly because of green kernels less than fifty percent of this variety was placed in the 2 C.W. class. The weight of O.P.R. 1 was not outstanding and only 11 percent of this variety graded 2 C.W. **Rust.**—Light stem rust infection appeared on all varieties. Light leaf rust infection was also reported, Rex being decidedly less infected than the other varieties. **Smut.**—Prospect showed three times the number of loose smutted heads as Newal and the latter was decidedly more infected with this disease than the other varieties. A light and an almost equal amount of covered smut was reported in all varieties. **Shattering.**—Light and more or less uniform losses were sustained by all varieties. **1943 Results and Official Recommendations.**—Newal was distinctly the highest yielder in this zone. It showed comparatively good weight and commercial grades, and in other characteristics it proved reasonably satisfactory. O.P.R. 1 yielded comparatively well and was also reasonably satisfactory in other characteristics. While lower in yield than a number of the other varieties, the two-rowed Rex was significantly outyielded only by Newal, and the general performance of Rex indicated its usefulness in this zone. The results suggest that Newal, O.P.R. 1 and Rex are the varieties most worthy of consideration. Generally it would appear that the performance of O.P.R. 1 is also deserving of consideration, but as the results of one year's test are inconclusive, further information is necessary before any definite decision can be made. Newal and Rex are listed in the official recommendations.

TABLE No. 20.—SUMMARIZED RESULTS FOR ZONE 3F

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	44.6	51.4	41.3	52.0	34.6
Days from sowing to ripening	81.0	82.5	81.0	82.5	78.0
Height of plants in inches	33.0	32.5	33.5	32.0	31.0
Straw strength	3.9	4.3	4.7	4.1	4.6
Neck strength	1.8	1.7	1.8	2.3	2.0
Bushel weight in pounds	49.5	48.2	51.8	51.3	48.7
Commercial grades in percentage—					
2 C.W. 2-Row	....	....	66	....	....
1 C.W. 6-Row	34	....	....	....	....
3 C.W.	....	34	....	66	34
1 Feed	66	66	34	34	66

Necessary difference—3.0 bus.

Cereal Variety Zone 3F

The summarized results for this zone are shown in Table No. 20. **Grain Yield.**—Newal excelled. It outyielded Plush by only .6 bus., but exceeded the other varieties by the following differences: O.P.R. 1 7.4 bus., Rex 10.7 bus., Prospect 17.4 bus. Newal failed to exceed Plush by a difference which equalled the necessary difference, but yielded significantly more than the other varieties. Plush also exceeded O.P.R. 1, Rex and Prospect by differences which are significant. O.P.R. 1 yielded significantly more than Rex and Prospect and Rex yielded significantly more than Prospect. **Earliness.**—Prospect excelled, ripening 3 days earlier than O.P.R. 1 and Rex, and 4.5 days earlier than Plush and Newal. **Height.**—Rex was the tallest variety, exceeding the others by differences as follows: O.P.R. 1 .5 inch, Plush 1 inch, Newal 1.5 inches, and Prospect 2.5 inches. **Straw Strength.**—A considerable amount of lodging was reported and in this zone the markings for straw strength were low. Rex excelled but it was followed closely by Prospect. Plush and Newal were only slightly superior to O.P.R. 1. **Neck Strength.**—Plush was only slightly superior to O.P.R. 1 and Rex, while Prospect was slightly inferior to the two latter varieties. Newal showed the weakest neck. **Weight.**—Rex excelled, outweighing the other varieties by the following differences: Newal .5 lbs., O.P.R. 1 2.3 lbs., Prospect 3.1 lbs., and Plush 3.6 lbs. **Grades.**—There were some green and weathered kernels in all varieties. Rex graded fairly well, although because of the defects mentioned some samples fell in the Feed class. Because of green and weathered kernels the grades of O.P.R. 1 were also lower than its weight would suggest. Of the three smooth-awned six-rowed varieties Newal showed some superiority in commercial grades. **Rust.**—Light traces of stem rust were reported on all varieties. Leaf rust was also in evidence in all varieties, the degree of infection being almost equal. **Smut.**—Prospect showed decidedly more loose smutted heads than Newal and the latter was much more affected by loose smut than the three remaining varieties. A small and almost equal percentage of covered smut appeared in all varieties. **Shattering.**—Prospect sustained more loss than the other varieties. **1943 Results and Official Recommendations.**—Of the three six-rowed smooth-awned varieties Newal excelled, although in yield and many other characteristics it was followed closely by Plush. O.P.R. 1 showed a comparatively good yield and except in straw strength, in which it was somewhat inferior, it was reasonably satisfactory in other characteristics. Rex ranked fourth in yield, but although it excelled in a number of characteristics, these factors would hardly compensate for its yield inferiority to nearly all the other varieties. In general the results of the 1943 test suggest that both Newal and Plush are worthy of consideration when the choice of a variety is being made. While the information contained in this report applies to one year only, the performance of O.P.R. 1 suggests that this new variety is at least deserving of further test in this region. Newal and Plush are officially recommended.

Cereal Variety Zone 3H

The results of only one test were available in Zone 3H. This test was conducted by Donald Edwin Gale, Compass, and the data are shown under individual results appearing on page 68.

TABLE No. 21.—SUMMARIZED RESULTS FOR ZONE 4A

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	51.9	56.7	46.7	52.3	37.4
Days from sowing to ripening	97.5	98.2	97.7	98.2	99.0
Height of plants in inches	34.5	35.2	35.0	34.2	31.0
Straw strength	9.3	9.0	9.5	9.2	9.9
Neck strength	1.6	1.0	1.2	2.2	1.3
Bushel weight in pounds	47.7	46.2	50.2	48.5	45.8
Commercial grades in percentage—					
3 C.W. 6-Row	....	....	....	34	....
1 Feed	100	66	100	66	34
2 Feed	....	34	....	....	66

Necessary difference—7.9 bus.

Cereal Variety Zone 4A

Table No. 21 shows the summarized results for Cereal Variety Zone 4A. **Grain Yield.**—Plush outyielded the other varieties by the following differences: Newal 4.4 bus., O.P.R. 1 4.8 bus., Rex 10.0 bus., and Prospect 19.3 bus. The differences between Plush, Newal and O.P.R. 1 were non-significant, but Plush yielded significantly more than Rex, and all varieties outyielded Prospect by differences which exceeded the necessary difference for the zone. **Earliness.**—O.P.R. 1 and Rex were almost equal in their maturity period, exceeding Plush and Newal by approximately .5 day and Prospect by approximately 1.5 days. **Height.**—Rex was only slightly taller than Plush and exceeded O.P.R. 1 by nearly .5 inch. Rex, however, was nearly 1 inch taller than Newal and 4 inches taller than Prospect. **Straw Strength.**—Prospect excelled and Plush showed the weakest straw, but the difference between any of the varieties was not of a marked nature. **Neck Strength.**—Plush was slightly superior to Prospect, Rex and O.P.R. 1, and these varieties were all superior to Newal. **Weight.**—Rex excelled, outweighing the other varieties by the following differences: Newal 1.7 lbs., O.P.R. 1 2.5 lbs., Plush 4.0 lbs., and Prospect 4.4 lbs. **Grades.**—Some green, weathered or light weight kernels were in evidence in nearly all samples. Newal appeared to be somewhat more free of these defects than the other varieties, and because of this and its comparatively good weight, it exceeded the other two six-rowed smooth-awned varieties in commercial grades. All samples of Rex and O.P.R. 1 were placed in the 1 Feed class. **Rust.**—A very light stem rust infection appeared in only one test. Leaf rust was reported in all tests, Rex appearing to be somewhat more infected than the other varieties. **Smut.**—The number of loose smutted heads reported in Prospect and Plush were almost equal and decidedly more than the number appearing in Rex. Newal showed comparatively few diseased heads and O.P.R. 1 was almost free. No covered smut was reported. **Shattering.**—Very light losses appeared only in O.P.R. 1 and Newal. **1943 Results and Official Recommendations.**—The difference in grain yield between Plush and Newal was not significant and the latter variety exceeded Plush in bushel weight and commercial grades. Prospect was decidedly low in yield and bushel weight, and although it was satisfactory in some of its other characteristics, this would hardly compensate for its yield and weight inferiority. O.P.R. 1 yielded comparatively well, excelled in earliness, and was reasonably satisfactory in a number of other characteristics. Because of weathered kernels the grades of O.P.R. 1 fell into the Feed class, but its all round performance suggests that further tests in this zone would be well worth while. Apart from bushel weight Rex was not outstanding in any characteristic. In general, from the results of this test there would appear to be little difference in the performance of Plush and Newal, and both of these varieties are officially recommended. O.P.R. 1 is not included in the official recommendations by Cereal Variety Zones. The results of a single year's test are, of course, inconclusive, but its comparative performance in 1943 suggests that O.P.R. 1 may prove to be a satisfactory variety for use in this zone.

Cereal Variety Zone 4B

The summarized results for Cereal Variety Zone 4B appear in Table No. 22. **Grain Yield.**—With an average yield of 39.0 bus. per acre, Newal excelled. It failed to outyield O.P.R.1 or Plush by differences which equalled the necessary

TABLE No. 22.—SUMMARIZED RESULTS FOR ZONE 4B

	O.P.R. 1	Plush	Rex	Newal	Prospect
Yield in bus. per acre	37.5	38.2	30.7	39.0	29.0
Days from sowing to ripening	93.0	95.0	93.3	94.0	94.0
Height of plants in inches	31.6	31.0	33.4	33.4	31.6
Straw strength	7.7	8.4	9.2	7.0	8.2
Neck strength	2.1	1.3	1.6	2.0	1.7
Bushel weight in pounds	47.7	46.5	50.5	49.0	45.9
Commercial grades in percentage—					
1 C.W. 2-Row	....	....	20	....	....
2 C.W. 6-Row	20	....	....	....	....
3 C.W.	....	20	....	20	20
1 Feed	60	40	80	80	40
2 Feed	20	40	....	....	20
3 Feed	....	....	....	....	20

Necessary difference—4.9 bus.

difference for the zone, but yielded significantly more than Rex or Prospect. The two latter varieties were also outyielded by O.P.R. 1 and Plush by differences which are significant. **Earliness.**—O.P.R. 1 and Rex were almost equal, exceeding Newal and Prospect by approximately 1 day, while the latter varieties were 1 day earlier than Plush. **Height.**—Rex and Newal tied and were nearly 2 inches taller than O.P.R. 1 and Prospect, and nearly 2.5 inches taller than Plush. **Straw Strength.**—Rex excelled and was followed by the other varieties in the order named: Plush, Prospect, O.P.R. 1 and Newal. **Neck Strength.**—Plush was slightly superior in this characteristic to Rex and Prospect. Newal and O.P.R. 1 showed some inferiority to the other varieties. **Weight.**—Rex again excelled, outweighing the other varieties by the following differences: Newal 1.5 lbs., O.P.R. 1 2.8 lbs., Plush 4 lbs., and Prospect 4.6 lbs. **Grades.**—Some weathered, light weight, or green kernels appeared in nearly all samples. Because of its weight superiority, Newal graded better than the other two six-rowed smooth-awned varieties. Twenty percent of the samples of Rex graded 1 C.W., but the others fell into the Feed class. Twenty percent of O.P.R. 1 graded 2 C.W., but the other samples were placed in the Feed classes. **Rust.**—A light and equal percentage of stem and leaf infection was reported on all varieties. **Smut.**—Prospect showed considerably more loose smutted heads than the other varieties. The number of diseased heads in Plush and Newal were almost equal and was decidedly more than appeared in O.P.R. 1 and Rex. All varieties were free of covered smut. **Shattering.**—A small and almost equal loss was reported in all varieties. **1943 Results and Official Recommendations.**—Newal was the highest yielder and apart from straw and neck strengths it was superior to Plush in all characteristics. Newal yielded significantly more than Prospect and apart from straw and neck strengths, equalled or exceeded it in other important characteristics. Rex ranked fourth in yield. It showed comparatively good height, excelled in straw strength and bushel weight, but only twenty

Bruce W. Brownlee of Rocanville beside his Barley Test.

percent of the samples were placed in the 2 C.W. class. O.P.R. 1 yielded relatively well and was the earliest maturing variety. It was not, however, particularly outstanding in any characteristic. In general, considering the three six-rowed smooth-awned varieties only, the performance of Newal was most satisfactory. While, as we have stated, O.P.R. 1 was not outstanding, the results suggest that it is at least worthy of further test in this part of the Province. Rex was comparatively low in yield, and although it excelled in bushel weight and was reasonably satisfactory in a number of other characteristics, these factors would hardly compensate for its yield inferiority. Newal is the only variety in the test which is recommended by the Saskatchewan Cereal Variety Committee for use in this zone.

GENERAL SUMMARY OF VARIETAL PERFORMANCES

Varieties Listed in Alphabetical Order

NEWAL

Grain Yield.—In nine out of the sixteen zones for which data are available, Newal ranked first. Over the whole project it averaged 36.3 bus. In this comparison it was equal to Plush and exceeded the other varieties by the following differences: Rex and O.P.R. 1 3.7 bus., and Prospect 7.5 bus. In the following zones Newal yielded significantly more than the varieties shown: 1A—O.P.R. 1, Prospect; 2A—O.P.R. 1; 2B—Prospect; 2E—O.P.R. 1; 3A—Prospect; 3B—O.P.R. 1, Rex, Prospect; 3C—O.P.R. 1, Rex, Prospect; 3E—Plush, Rex, Prospect; 3F—O.P.R. 1, Rex, Prospect; 4A—Prospect; 4B—Rex, Prospect. **Earliness.**—Newal varied in its comparative maturity period in the different zones, but a general average of all tests shows that it ripened in 88.9 days. In this comparison it was almost equal to O.P.R. 1, but was 1 day later than Prospect. It exceeded Rex and Plush in earliness by .6 day and 1.3 days respectively. **Height.**—The comparative height of Newal also varied in the different zones, but over the whole project it tied with Rex and exceeded O.P.R. 1 and Plush by very slight differences. It was, however, 1.5 inches taller than Prospect. **Straw Strength.**—Although some variations were noted in the different zones, a general average of all tests shows that Newal tied with O.P.R. 1 and was slightly inferior to the other varieties. **Neck Strength.**—In nearly all zones Newal was somewhat weaker in the neck than the other varieties. **Weight.**—Newal exhibited its best comparative weight in the northern zones, where in general it ranked second to Rex. In a number of other zones it was exceeded by or tied with O.P.R. 1. Taking the project as a whole, Newal averaged 48.4 lbs. per measured bushel. In this comparison it weighed .4 lb. less than O.P.R. 1 and 2.1 lbs. less than Rex, but outweighed Prospect and Plush by 1.2 lbs. and 1.6 lbs. respectively. **Grades.**—The commercial grades placed on Newal were as follows: 3 C.W. 53.4%, 1 Feed 35.8%, 2 Feed 9.7%; 3 Feed 1.1%. In grades Newal was superior to the other six-rowed smooth-awned varieties. **Rust.**—The percentage of stem rust appearing on Newal was less than the infection reported on Rex, and approximately equal to the other varieties. There was little difference between any of the varieties in the percentage of leaf rust recorded. **Smut.**—The number of loose smutted heads appearing in Newal was less than reported in Plush and decidedly less than in Prospect. Newal, however, appeared to be more affected by loose smut than Rex or O.P.R. 1. Only a small and approximately equal percentage of covered smut was recorded in all varieties. **Shattering.**—There was little difference in the loss sustained by any of the varieties, although Newal sustained a slightly heavier loss than Plush or Rex and slightly less than O.P.R. 1 and Prospect.

O.P.R. 1

Grain Yield.—Taking the barley project as a whole, O.P.R. 1 produced an average yield of 32.6 bus. In this comparison it exceeded Prospect by 3.8 bus., tied with Rex, but was outyielded by Newal and Plush, which also tied, by 3.7 bus. O.P.R. 1 exhibited its best yielding ability in Zones 3B, 3F and 4B, where it yielded significantly more than both Rex and Prospect. In Zones 2B, 3A, 3C, 3E and 4A it outyielded Prospect by differences which exceeded the necessary difference for the zones. **Earliness.**—In most zones O.P.R. 1 ranked second to Prospect and ripened earlier than the other varieties, but in the two northern zones, 4A and 4B, it matured earlier than any of the

other varieties by differences which ranged up to 2.0 days. Over the whole project O.P.R. 1 was nearly 1 day later than Prospect, but exceeded the other varieties in its maturity period by the following differences: Newal .1 day, Rex .7 day, and Plush 1.4 days. **Height.**—While there were some variations in the different zones, in general, with the exception of Prospect, there was little difference in the comparative height of O.P.R. 1 and the other varieties. In one or two zones in the south O.P.R. 1 was somewhat shorter than Prospect, but in most zones O.P.R. 1 was taller than this variety, and taking the project as a whole, exceeded it by approximately 1 inch. **Straw Strength.**—The comparative straw strength of O.P.R. 1 varied in different zones, but an average of all tests shows that O.P.R. 1 was equal to Newal and was only slightly inferior to the other varieties. **Neck Strength.**—While showing a somewhat weaker neck than at least one of the other varieties in most zones, the differences were only of a very slight nature. In general O.P.R. 1 was superior in this characteristic to Newal and only slightly inferior to the other varieties. **Weight.**—In Zone 2E O.P.R. 1 excelled, and in the southern zones with the exception of Zones 2C and 2F, where it was outweighed by Newal, and in Zones 2B and 3B, where it tied with Newal, O.P.R. 1 ranked second to Rex. In the northern zones it was exceeded by both Rex and Newal. Averaging over the whole Province 48.8 lbs., it was, however, exceeded only by Rex, the differences between these two varieties being 1.7 lbs. In this comparison O.P.R. 1 exceeded the other varieties by the following differences: Newal .4 lb., Prospect 1.6 lbs., and Plush 2.0 lbs. **Grades.**—The commercial grades placed on O.P.R. 1 were as follows: 1 C.W. 8.5%, 2 C.W. 23.7%, 3 C.W. 19.7%, 1 Feed 41.4%, 2 Feed 6.7%. In giving consideration to these grades it should be noted that as O.P.R. 1 was developed with a view to satisfying the need of a comparatively smooth-awned barley which would be satisfactory for feeding purposes, and also acceptable to the maltsters, the grading of this variety was carried out on the assumption that it was equal for malting purposes to O.A.C. 21. **Rust.**—The amount of stem rust infection recorded on this variety was somewhat less than the infection appearing on Rex, and only slightly more than the infection shown on the other varieties. There was little difference in the degree of leaf rust infection shown in any of the varieties. **Smut.**—O.P.R. 1 showed the smallest number of loose smutted heads. It was somewhat less infected than Rex and Newal, and showed decidedly fewer diseased heads than Plush and Prospect. O.P.R. 1 also showed less covered smut infection than any of the other varieties. **Shattering.**—There was little difference in the losses sustained by shattering, although O.P.R. 1 suffered slightly more loss than the other varieties.

PLUSH

Grain Yield.—Averaging over the entire project 36.3 bus. per acre, Plush tied with Newal and exceeded the other varieties by the following differences: Rex and O.P.R. 1 3.7 bus., and Prospect 7.5 bus. Plush excelled in six out of the sixteen zones, for which data are available, and in the following zones it yielded significantly more than the varieties shown: 1A—Rex, Newal, Prospect and O.P.R. 1; 1B—O.P.R. 1; 2A—O.P.R. 1; 2B—O.P.R. 1 and Prospect; 2E—Prospect and O.P.R. 1; 3A—Prospect; 3B—Rex and Prospect; 3C—Prospect; 3E—Prospect; 3F—O.P.R. 1, Rex and Prospect; 4A—Rex and Prospect; 4B—Rex and Prospect. **Earliness.**—In nearly all zones Plush was later than the other varieties. Over the whole project it required an average of 90.2 days to reach maturity and was exceeded by the other varieties by the following differences: Rex .7 day, Newal 1.3 days, O.P.R. 1 1.4 days, and Prospect 2.3 days. **Height**—Although Plush equalled or exceeded the other varieties in seven zones, in general it exceeded Prospect, the shortest variety, by 1.4 inches, and was almost equal to the others. **Straw Strength.**—There was some variation in comparative straw strengths in the different zones, but taking the tests as a whole, Plush appeared to be slightly superior to O.P.R. 1 and Newal, equal to Prospect, and slightly inferior to Rex. **Neck Strength.**—Plush excelled in this characteristic in a few zones, particularly in the northern regions, but taking the project as a whole, only in the case of Newal did it show marked superiority. **Weight.**—In nine out of the sixteen zones under review, Plush was outweighed by all varieties, and a general average shows that it was exceeded in weight by the following differences: Prospect .4 lb.,

Newal 1.6 lbs., O.P.R. 1 2 lbs., and Rex 3.7 lbs. **Grades.**—The commercial grades placed on the Plush variety are shown as follows: 3 C.W. 36.3%, 1 Feed 41.1%, 2 Feed 17.5%, 3 Feed 5.1%. **Rust.**—The percentage of stem rust appearing on Plush was less than the infection appearing on Rex and approximately equal to the infection reported on the other varieties. Leaf rust infection was more or less equal in Plush, O.P.R. 1 and Prospect, these varieties being only slightly more infected than Rex and Newal. **Smut.**—Plush showed decidedly less loose smutted heads than Prospect, but decidedly more than the other varieties. The percentage of covered smut reported in Plush and Prospect was equal and was somewhat more than shown in the other varieties. **Shattering.**—There was little difference in the losses sustained by any of the varieties, although the loss suffered by Plush was slightly less than the loss reported to the others.

PROSPECT

Grain Yield.—Prospect showed its best comparative yield in the southern zones, but only in Zone 2A, where it exceeded O.P.R. 1 by a difference which exceeded the necessary difference, did it yield significantly more than any of the other varieties. In the centre and northern zones it was outyielded by all varieties. Taking the tests as a whole, Prospect produced an average yield of 28.8 bus. and was exceeded in yielding ability by the other varieties by the following differences: O.P.R. 1 and Rex by 3.8 bus., and Newal and Plush by 7.5 bus. **Earliness.**—Although it appeared to be later than some of the other varieties in one or two zones in the centre and in the extreme north, in most zones Prospect excelled in earliness. Taking the project as a whole it matured in an average of 87.9 days, and in this comparison it exceeded the other varieties by differences ranging from .9 day to 2.3 days. **Height.**—In general Prospect was exceeded in height by differences ranging from 1.3 inches to 1.5 inches. **Straw Strength.**—In most zones Prospect showed relatively strong straw, and over the project it tied with Plush in ranking second to Rex in this characteristic, being slightly superior to the other varieties. **Neck Strength.**—While showing slight inferiority to some of the varieties in a number of zones, taking the tests as a whole, Prospect was reasonably satisfactory in this characteristic, being superior to Newal, slightly superior to O.P.R. 1, and very slightly inferior to Plush and Rex. **Weight.**—Although some variations occurred, in most zones Prospect exceeded Plush in bushel weight and was outweighed by the other varieties. Taking the tests as a whole, Prospect showed an average weight of 47.2 lbs., exceeding Plush by .4 lb., and being outweighed by the other varieties by the following differences: Newal 1.2 lbs., O.P.R. 1 1.6 lbs., and Rex 3.3 lbs. **Grades.**—The grades placed on this variety were as follows: 3 C.W. 40.8%, 1 Feed 35.4%, 2 Feed 20.0%, 3 Feed 3.8%. In general Prospect was slightly superior to Plush, but graded somewhat lower than Newal. **Rust.**—Prospect showed slightly less stem rust infection than Rex and an approximately equal percentage of infection as the other varieties. The percentage of leaf rust infection on all varieties was more or less equal. **Smut.**—Prospect was severely affected with loose smut, the number of diseased heads in this variety being almost twice the number appearing on Plush, and considerably more than in the other varieties. Only a slight infection of covered smut was recorded. Prospect was equal to Plush in the percentage reported and showed slightly more infection than the other varieties. **Shattering.**—The loss sustained by Prospect was slightly less than the loss suffered by O.P.R. 1 and slightly more than the losses reported in the other varieties.

REX

Grain Yield.—An average of all tests shows that Rex yielded 32.6 bus. per acre. It was equal to O.P.R. 1, exceeded Prospect by 3.8 bus., but was outyielded by both Newal and Plush by 3.7 bus. In Zone 1A Rex yielded significantly more than O.P.R. 1 and Prospect. In Zone 2A it yielded significantly more than O.P.R. 1, and in Zones 2B, 3A, 3C, 3E, 3F, and 4A it outyielded Prospect by differences which exceeded the necessary difference for the zone. **Earliness.**—Some variation occurred in comparative maturity periods in the different zones, but over the whole project Rex required an average of 89.5 days from sowing to ripening. In this comparison it was .7 day earlier than Plush, but was later than the other varieties by the dif-

ferences shown: Newal .6 day, O.P.R. 1 .7 day, and Prospect 1.6 days. **Height.**—Some variations also occurred in this characteristic, but a general average of all tests showed little difference between the varieties. Rex tied with Newal and was slightly taller than the other varieties. Rex was 1.5 inches taller than Prospect, the shortest variety. **Straw Strength.**—In nine out of the sixteen zones under review, Rex excelled, and in all other zones it was comparatively satisfactory. **Neck Strength.**—Rex also equalled or excelled the other varieties in this characteristic in nearly all zones. **Weight.**—With the exception of one zone where it was slightly exceeded by O.P.R. 1, Rex consistently excelled in bushel weight. Over the whole test it showed an average weight of 50.5 lbs., exceeding the other varieties by the following differences: O.P.R. 1 1.7 lbs., Newal 2.1 lbs., Prospect 3.3 lbs., and Plush 3.7 lbs. **Grades.**—The average grades placed on this variety were as follows: 1 C.W. 13.5%, 2 C.W. 30.9%, 1 Feed 51.2%, 2 Feed 4.4%. **Rust.**—Light stem rust infection appeared on all varieties, Rex being somewhat more infected than the others. There was little difference in the percentage of leaf rust infection reported in any of the varieties. **Smut.**—Rex showed slightly more loose smutted heads than O.P.R. 1, but less than Newal, and decidedly less than Plush or Prospect. The percentage of covered smut was almost equal in all varieties, although apart from O.P.R. 1, Rex was slightly less affected than the others. **Shattering.**—There was little difference in the loss sustained by any of the varieties but the loss suffered by Rex was less than the losses reported in O.P.R. 1, Prospect and Newal.

WHEAT AND FLAX TESTS

Owing to the limited number of tests with wheat and flax varieties it was impossible to analyze the results by Cereal Variety Zones. As moisture is the most influencing factor in the yielding ability of any variety, it was decided to divide the province into four areas, each area corresponding to a marked degree with the amount of rainfall received during the growing season. These areas which are described under the letters A, B, C, and D, are illustrated on page 19. The average total precipitation in each of these areas during the months April to August 1943 is shown in Table No. 23.

The Flax Test of Ernie Romie Kanasewich, Eatonia

RAINFALL

TABLE No. 23.—AVERAGE TOTAL PRECIPITATION

Area	April		May		June		July		August	
	*		*		*		*		*	
"A"	39	.95	57	1.62	55	1.53	41	1.12	35	1.64
"B"	46	.96	89	2.18	89	1.38	66	1.68	58	1.46
"C"	54	.21	71	1.42	68	3.10	65	1.75	52	1.70
"D"	35	.15	50	1.81	44	2.54	38	1.70	31	1.88

* No. of stations reporting.

WHEAT

TABLE No. 24.—AVERAGE YIELD IN BUSHELS PER ACRE

	No. of Satisfactory Tests	Thatcher	Apex	Regent	Newthatch	Necessary Difference in Bushels
Area "A"	4	14.9	13.4	13.6	12.7	1.7
Area "B"	7	18.2	17.1	17.3	16.7	*
Area "C"	14	23.2	20.5	21.0	20.8	.8
Area "D"	7	38.1	34.1	36.2	33.3	2.5

* No significant differences between varieties.

GRAIN YIELD

The figures in Table No. 24 show that Thatcher outyielded the other varieties in each of the four areas. In Area "A" Thatcher failed to exceed Apex or Regent by differences which equalled the necessary difference, but it yielded significantly more than Newthatch. In area "B" it also excelled, but the differences between varieties in this area were non-significant. In Area "C" Thatcher yielded significantly more than any of the other varieties. In Area "D" Thatcher outyielded Regent by 1.9 bus., a difference which is not significant, but Thatcher yielded significantly more than Apex or Newthatch. Regent also yielded significantly more than Newthatch. Taking the wheat project as a whole, Thatcher averaged 24.3 bus. per acre, out-yielding the other varieties by the following differences: Regent 1 bus., Apex 2.4 bus., and Newthatch 2.7 bus.

TABLE No. 25.—DAYS FROM SOWING TO RIPENING

	Thatcher	Apex	Regent	Newthatch
Area "A"	98.7	98.7	98.7	98.5
Area "B"	105.7	107.5	107.0	107.5
Area "C"	105.1	103.7	103.2	104.0
Area "D"	103.0	102.6	102.0	102.3

DAYS FROM SOWING TO RIPENING

Table No. 25 shows the average number of days required by each variety from sowing to ripening. As the reader will observe, the comparative maturity periods varied in the different areas, but in general there was little difference between any of the varieties.

TABLE No. 26.—AVERAGE HEIGHT OF PLANTS IN INCHES

	Thatcher	Apex	Regent	Newthatch
Area "A"	17.6	16.6	17.0	17.0
Area "B"	28.3	29.5	28.6	29.6
Area "C"	33.3	33.7	33.3	33.0
Area "D"	38.2	39.0	38.0	37.5

HEIGHT OF PLANTS

In Table No. 26 is shown the average height of plants in inches of each variety in the four areas. There was also some variation in the comparative heights in the different areas. Taking the tests as a whole, Apex showed the best height, but there was little difference between any of the varieties.

TABLE No. 27.—COMPARISON OF STRAW STRENGTH

	Thatcher	Apex	Regent	Newthatch
Area "A"	9.5	9.2	9.0	9.2
Area "B"	9.4	9.3	9.2	9.5
Area "C"	8.4	7.7	8.3	8.3
Area "D"	9.2	7.8	9.7	8.7

STRAW STRENGTH

Straw Strength was reported on the basis 0-10 as in the barley tests, and the summarized results are shown in Table No. 27. As it will be observed, the comparative strength of straw also varied in the different areas. A general average of all tests, however, showed that Thatcher excelled in this characteristic, but was followed closely by the other varieties in the order named: Regent, Newthatch, and Apex.

TABLE No. 28.—BUSHEL WEIGHT IN POUNDS

	Thatcher	Apex	Regent	Newthatch
Area "A"	60.1	61.7	60.4	59.9
Area "B"	62.5	63.2	63.1	62.1
Area "C"	61.7	62.5	62.3	61.3
Area "D"	62.8	61.9	62.9	61.1

WEIGHT PER MEASURED BUSHEL

Table No. 28 shows the average bushel weight of each wheat variety used in the tests. All weights were taken on cleaned samples. In three out of the four areas Apex excelled. The exception was in Area D, where it was outweighed by both Thatcher and Regent. Taking the wheat project as a whole, Regent and Apex tied in bushel weight. Thatcher consistently outweighed Newthatch, but here again the difference between these two varieties was not of a marked nature, although in Area D Thatcher exceeded the Newthatch variety by a difference of 1.7 lbs.

TABLE No. 29.—PERCENTAGE OF COMMERCIAL GRADES BY VARIETIES

	1H.	1N.	2N.	3N.	4N.	No. 4 Sp.	No. 5	No. 6	Feed	Rej. 4 N.	Rej. No. 5
Thatcher	3.5	40.7	25.0	15.0	5.2	....	1.8	3.5	1.8	3.5	....
Apex	18.7	48.7	11.5	10.5	....	....	1.8	3.5	1.8	....	3.5
Regent	3.5	54.0	17.0	13.2	....	1.8	1.8	3.5	1.7	3.5	....
Newthatch	....	52.0	20.7	11.5	3.5	1.8	1.8	3.5	1.7	....	3.5

COMMERCIAL GRADES

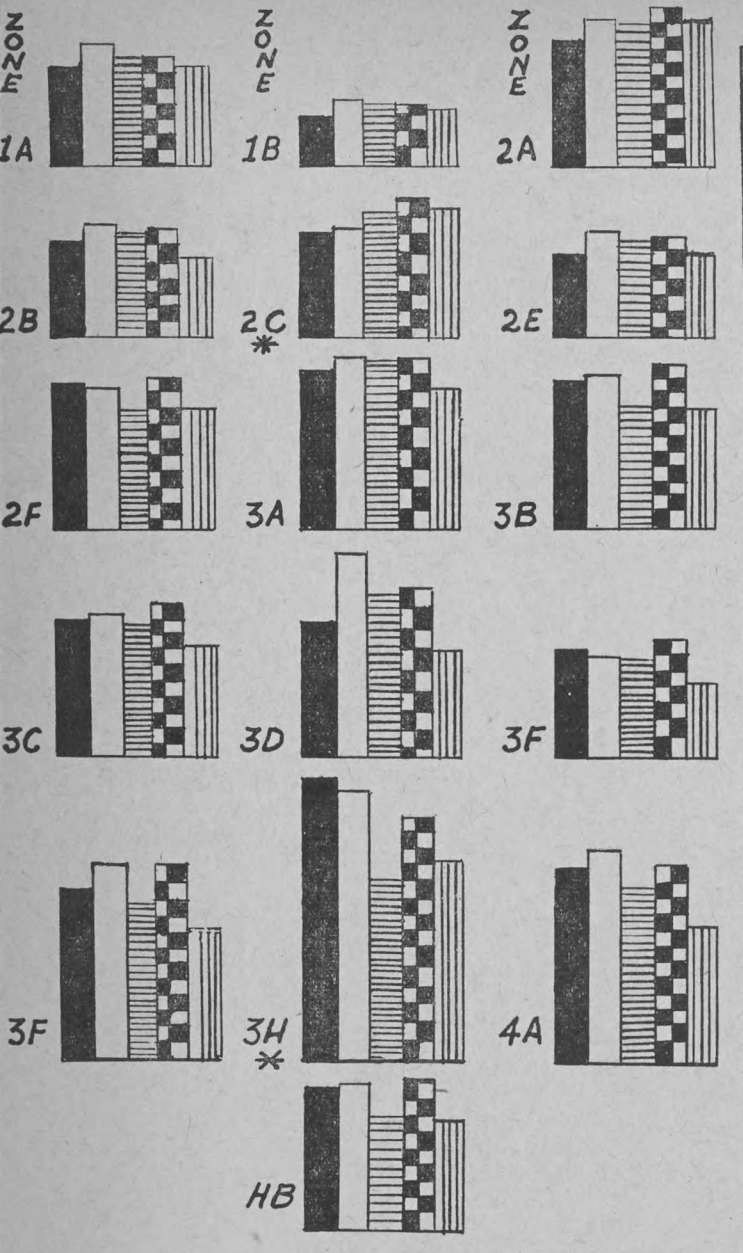
Table No. 29 shows the commercial grades in percent of each variety in the test. From this table it will be observed that Apex was somewhat superior in commercial grades. There was little difference between the grades of the other varieties, although Regent was slightly superior to Newthatch and the latter variety was slightly superior to Thatcher.

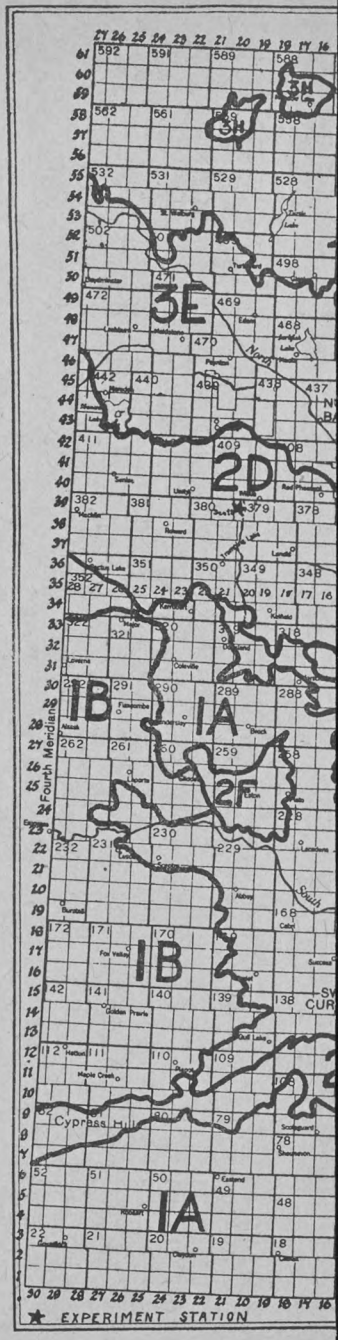
TABLE No. 30.—SUMMARIZED RESULTS FOR AREA "A"

	Thatcher	Apex	Regent	Newthatch
Yield in bus. per acre	14.9	13.4	13.6	12.7
Days from sowing to ripening	98.7	98.7	98.7	98.5
Height of plants in inches	17.6	16.6	17.0	17.0
Straw strength	9.5	9.2	9.0	9.2
Bushel weight in pounds	60.1	61.7	60.4	59.9
Commercial grades in percentage—				
1 Hard	....	25	....	....
1 Nor.	25	50	50	50
2 Nor.	50	....	25	25
3 Nor.	25	25	25	25

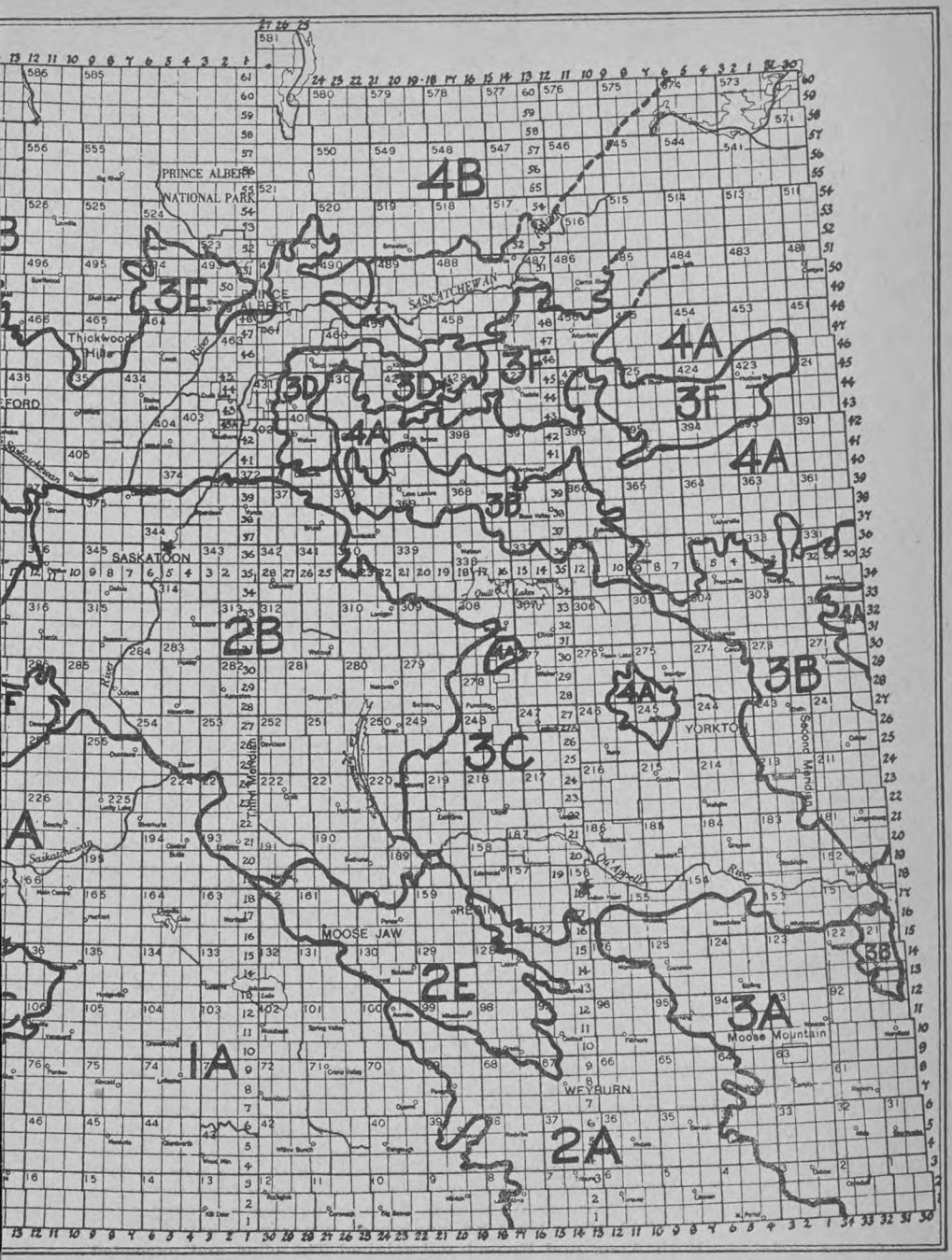
Necessary difference—1.7 bus.

HISTOGRAM showing grain yield in bushels per acre
Barley only





Cereal Variety Zones of Saskatchewan



AREA A

The summarized results for Area A appear in Table No. 30. **Grain Yield.**—Thatcher excelled, outyielding the other varieties by the following differences: Regent 1.3 bus., Apex 1.5 bus., and Newthatch 2.2 bus. The differences between Thatcher, and Regent or Apex, are not significant, but Thatcher yielded significantly more than Newthatch. **Earliness.**—All varieties were practically equal in their maturity periods. **Height.**—Thatcher excelled, being .6 inch taller than Regent and Newthatch, and 1 inch taller than Apex. **Straw Strength.**—Thatcher was only slightly superior to Apex and Newthatch, and the latter varieties were only slightly superior to Regent. **Weight.**—Apex excelled, outweighing the other varieties by the following differences: Regent 1.3 lbs., Thatcher 1.6 lbs., and Newthatch 1.8 lbs. **Grades.**—Some bleached or shrunken kernels were in evidence in nearly all samples, but Apex showed slightly less defects than the other varieties. With superiority in bushel weight and with fewer defects, Apex excelled in commercial grades. Regent and Newthatch tied in grading ability, while Thatcher was only slightly inferior to these varieties. **Rust.**—No stem or leaf rust was reported. **Smut.**—No loose smutted heads were recorded, but slight covered smut infection was reported in all varieties. **Shattering.**—Light and almost equal losses were sustained by all varieties. **1943 Results.**—In this area which suffered severely from drought, Thatcher excelled in yield, and although slightly lower in bushel weight and commercial grades than Apex and Regent, it was satisfactory in other characteristics, and in general its performance excelled that of the other varieties. There was little difference between Apex and Regent, although of the two the superior weight and grades of Apex gave it an advantage. Newthatch was low in yield and in bushel weight and showed no particular merit insofar as any other characteristic is concerned.

TABLE No. 31.—SUMMARIZED RESULTS FOR AREA "B"

	Thatcher	Apex	Regent	Newthatch
Yield in bus. per acre	18.2	17.1	17.3	16.7
Days from sowing to ripening	105.7	107.5	107.0	107.5
Height of plants in inches	28.3	29.5	28.6	29.6
Straw strength	9.4	9.3	9.2	9.5
Bushel weight in pounds	62.5	63.2	63.1	62.1
Commercial grades in percentage—				
1 Hard	....	29	....	....
1 Nor.	57	57	100	71
2 Nor.	29	....	....	29
3 Nor.	14	14	....	....

No significant grain yield difference between varieties.

AREA B

The summarized results for Area "B" appear in Table No. 31. **Grain Yield.**—Thatcher excelled, outyielding the other varieties by the following differences: Regent .9 bus., Apex 1.1 bus., and Newthatch 1.5 bus. None of the differences in this area, however, were significant. **Earliness.**—Thatcher excelled, ripening 1.3 days earlier than Regent and 1.8 days earlier than Apex or Newthatch. **Height.**—Apex and Newthatch were almost equal. They were approximately 1 inch taller than Regent and slightly more than 1 inch taller than Thatcher. **Straw Strength.**—Newthatch ranked first but was followed closely by Thatcher, Apex, and Regent, in the order named. **Weight.**—Regent and Apex were practically equal, exceeding Thatcher by .6 lb. and .7 lb. respectively, and Newthatch by 1 lb. **Grades.**—Bleached, green, or lightweight kernels appeared in nearly all samples. Apex showed less defects of this nature than the other varieties, although in one or two tests it contained some very green kernels. In general Apex and Regent were more or less equal in grading ability, while the grades placed on Newthatch were slightly superior to those of Thatcher. **Rust, Smut.**—No stem or leaf rust and no smut was recorded. **Shattering.**—The percentage of loss was almost equal, although the loss sustained by Regent was slightly more than the losses reported in the other varieties. **1943 Results.**—While Thatcher exceeded Apex and Regent in grain yield, there were no significant differences between any of the varieties. Both Apex and Regent outweighed Thatcher and exceeded the latter variety in commercial grades. In general there was little difference

between the performances of these varieties, but of the three Apex appeared to have a slight advantage. Newthatch was low in yield, bushel weight, and commercial grades, and was not outstanding in any other characteristic.

TABLE No. 32.—SUMMARIZED RESULTS FOR AREA "C"

	Thatcher	Apex	Regent	Newthatch
Yield in bus. per acre	23.2	20.5	21.0	20.8
Days from sowing to ripening	105.1	103.7	103.2	104.0
Height of plants in inches	33.3	33.7	33.3	33.0
Straw strength	8.4	7.7	8.3	8.3
Bushel weight in pounds	61.7	62.5	62.3	61.3
Commercial grades in percentage—				
1 Hard	....	7	....	....
1 Nor.	51	44	36	29
2 Nor.	7	21	29	29
3 Nor.	21	14	14	21
4 Nor.	7	....	....	....
No. 4 Spec.	....	....	7	7
No. 5	7	7	7	7
Feed	7	7	7	7

Necessary difference—.8 bus.

AREA C

The results for Area C appear in Table No. 32. **Grain Yield.**—Thatcher again excelled, outyielding the other varieties by the following differences: Regent 2.2 bus., Newthatch 2.4 bus., and Apex 2.7 bus. All of these differences are significant. **Earliness.**—Regent matured earlier than Apex and Newthatch by differences of only .5 day and .8 day respectively, but exceeded Thatcher by 1.9 days. **Height.**—Apex was only .4 to .7 inch taller than the other varieties. **Straw Strength.**—Thatcher was very slightly superior to Regent and Newthatch, but showed definite superiority to Apex. **Weight.**—Apex outweighed Regent by only .2 lb., but exceeded Thatcher by .8 lb. and Newthatch by 1.2 lbs. **Grades.**—Green, immature, or bleached kernels appeared in nearly all samples and grades varied from 1 Hard to Feed. There was little difference between Thatcher and Apex, although of the two Apex was slightly superior and Regent graded slightly better than Newthatch. **Rust.**—A light and more or less equal percentage of stem rust infection was reported on all varieties. A light leaf rust infection was recorded, Thatcher showing slightly more infection than the other varieties. **Smut.**—No loose or covered smut was reported. **Shattering.**—Losses were light and almost equal in all varieties. **1943 Results.**—Thatcher excelled in grain yield, yielding significantly more than any of the other varieties. In general there was no outstanding difference in other characteristics, although Apex was high and Newthatch low in bushel weight and commercial grades.

TABLE No. 33.—SUMMARIZED RESULTS FOR AREA "D"

	Thatcher	Apex	Regent	Newthatch
Yield in bus. per acre	38.1	34.1	36.2	33.3
Days from sowing to ripening	103.0	102.6	102.0	102.3
Height of plants in inches	38.2	39.0	38.0	37.5
Straw strength	9.2	7.8	9.7	8.7
Bushel weight in pounds	62.8	61.9	62.9	61.1
Commercial grades in percentage—				
1 Hard	14	14	14	....
1 Nor.	30	44	30	58
2 Nor.	14	....	14	....
3 Nor.	....	14	14	....
4 Nor.	14	....	....	14
Rej. 4 Nor.	14	....	14	....
Rej. No. 5	....	14	....	14
No. 6	14	14	14	14

Necessary difference—2.5 bus.

AREA D

Summarized results for Area D appear in Table No. 33. **Grain Yield.**—Thatcher again excelled, exceeding the other varieties by differences as follows: Regent 1.9 bus., Apex 4 bus., and Newthatch 4.8 bus. The difference between Thatcher and Regent is non-significant, but Thatcher yielded significantly more

than Apex and Newthatch. Regent also yielded significantly more than Newthatch. **Earliness.**—Regent exceeded Newthatch and Apex by only .3 day and .6 day respectively, and was only 1 day earlier than Thatcher. **Height.**—Apex was taller than the other varieties by the following differences: Thatcher .8 inch, Regent 1 inch, and Newthatch 1.5 inches. **Straw Strength.**—Regent excelled and was followed by Thatcher, Newthatch and Apex, in the order named. **Weight.**—Regent and Thatcher were almost equal. They outweighed Apex by approximately 1 lb. and weighed approximately 1.8 lbs. more than Newthatch. **Grades.**—Green, immature, bleached, or frosted kernels appeared in nearly all samples. These defects reduced grades considerably, and although Apex showed slight superiority there was little difference between any of the varieties. **Rust.**—No stem rust was reported and the percentage of leaf rust was more or less equal in all varieties. **Smut.**—All varieties were free of loose and covered smut infection. **Shattering.**—Comparative small and equal losses were sustained by all varieties. **1943 Results.**—Thatcher excelled in yield but failed to outyield Regent by a difference which equalled the necessary difference for the area. Both of these varieties showed some characteristics superior to the other, but in so far as the general performance is concerned, they were more or less equal. Apex ranked third in yield, although the difference between this variety and Regent was not significant. Apex was somewhat weak in straw and weighed approximately 1 lb. less than Thatcher or Regent, but it was slightly superior to both of these varieties in commercial grades. Newthatch was low in yield and in its other characteristics showed no outstanding merit.

GENERAL SUMMARY OF VARIETAL PERFORMANCES

Varieties Listed in Alphabetical Order

APEX

Grain Yield.—Although Apex was outyielded by Thatcher and Regent in each of the four areas, only in Areas C and D was it outyielded by significant differences. In these areas Thatcher yielded significantly more than the Apex variety. **Earliness.**—The difference between any of the varieties was of a very slight nature. **Height.**—Although slightly inferior in Area A, and approximately equal to Newthatch in Area B, it excelled in the other two areas, showing its best comparative height in Area D. **Straw Strength.**—Apex was slightly superior to Regent in Areas A and B, where moisture was deficient, but in Areas C and D it was inferior to the Regent variety. In Area A it equalled Newthatch, but in general it was slightly inferior to the other varieties. **Weight.**—In Areas A, B and C Apex excelled, but in Area D it was superior only to Newthatch. An average of all tests showed that Apex and Regent were equal. Apex exceeded Thatcher and Newthatch, however, by .5 lb. and 1.1 lbs. respectively. **Grades.**—Apex excelled in commercial grades. It was superior to both Regent and Thatcher and excelled Newthatch in grading ability by a marked difference. **Rust.**—A light and almost equal percentage of stem rust infection appeared in all varieties. A comparatively light leaf rust infection was also reported, the infection on Apex being slightly less than that appearing on Thatcher and more or less equal to the other varieties. **Smut.**—No loose smut was recorded, but a small trace of covered smut was reported in one test, all varieties being equally affected. **Shattering.**—The percentages of losses were almost equal in all varieties.

NEWTHATCH

Grain Yield.—With the exception of Area C, where it exceeded Apex by a very small difference, Newthatch was outyielded by all varieties in each of the four areas. In Area C it was significantly outyielded by Thatcher, and in Area D both Thatcher and Regent yielded significantly more than the Newthatch variety. **Earliness.**—In the areas where moisture was more or less plentiful, Newthatch appeared to exceed Thatcher in its maturity period, but in general there was little difference between any of the varieties. **Height.**—There was little difference in comparative heights, although in Area D, where moisture was most plentiful, Newthatch was somewhat shorter than the other varieties. **Straw Strength.**—Newthatch exhibited its best straw strength in Area B where it was slightly superior to the other varieties.

A general average of all tests, however, shows that it was inferior in this characteristic to Thatcher and Regent, but was slightly superior to Apex. **Weight.**—Newthatch was outweighed by all varieties in each of the four areas. Over the whole test it was exceeded by the other varieties by the following differences: Thatcher .6 lb., Apex and Regent 1.1 lbs. **Grades.**—In general Newthatch was slightly superior to Thatcher, but somewhat inferior to Apex and Regent. **Rust.**—A small and almost equal percentage of stem rust infection appeared in all varieties. Leaf rust infection was also almost equal in Newthatch, Apex and Regent. Thatcher showed slightly more infection than these varieties. **Smut.**—No loose smut was recorded and the very slight trace of covered smut was almost equal in all varieties. **Shattering.**—The loss sustained was almost equal in all varieties.

REGENT

Grain Yield.—In each of the four areas Regent ranked second to Thatcher, but only in Area C did Thatcher yield significantly more than the Regent variety. Regent outyielded both Apex and Newthatch in each of the four areas, but only in the case of Newthatch in Area D was a significant difference recorded. **Earliness.**—There was some variation in comparative maturity periods in the different areas, but taking the tests as a whole, the differences between any of the varieties were not of a marked nature. In general, however, Regent was slightly earlier than the others and showed its best comparative maturity period in Areas C and D where it exceeded the other varieties by differences ranging from .3 day to 1.9 days. **Height.**—Regent tied with Newthatch in Area A, was 1 inch shorter in Area B, but exceeded this variety in other areas. It exceeded Thatcher in Area B and tied with this variety in Area C, but was slightly shorter than Thatcher in the other areas. With the exception of Area A, where it was slightly taller, Regent was generally exceeded in height by Apex. However, there were no outstanding differences between any of the varieties. **Straw Strength.**—In three out of the four areas Regent was somewhat inferior to Thatcher, but was superior to the latter variety in Area D. In Areas A and B, where moisture was deficient, Regent was also inferior to Apex, but in the other two areas it was superior to the Apex variety. In Area D it was superior to Newthatch, but in the other areas it either tied or showed some inferiority to this variety. An average of all tests shows that Regent was slightly inferior to Thatcher, more or less tied with Newthatch, and was slightly superior to Apex. **Weight.**—Regent showed its best bushel weight in Area D where it exceeded Thatcher by a slight difference and outweighed Apex and Newthatch by 1 lb. and 1.8 lbs. respectively. It exceeded Thatcher and Newthatch in all areas. An average of all tests shows that Regent and Apex tied. **Grades.**—In general Regent ranked second to Apex, grading slightly better than Newthatch, and showing somewhat better grades than Thatcher. **Rust.**—The small percentage of stem rust infection was approximately equal in all varieties. Leaf rust infection was also more or less equal, but Thatcher showed slightly more infection than Regent and the two other varieties. **Smut.**—No loose smut was recorded, but a trace and more or less equal percentage of covered smut was reported in only one test. **Shattering.**—Comparatively small and almost equal losses were sustained by all varieties.

THATCHER

Grain Yield.—Thatcher excelled in each of the four areas. Averaging 24.3 bus. per acre it outyielded the other varieties by differences as follows: Regent 1 bus., Apex. 2.4 bus., Newthatch 2.7 bus. **Earliness.**—There was little difference in the comparative maturity periods of any of the varieties. **Height.**—There was also little difference in comparative heights, although Apex was slightly taller than Thatcher. **Straw Strength.**—Thatcher excelled in Areas A and C, and in each of the Areas B and D it was inferior to only one of the other varieties. Taking the tests as a whole it was superior in this characteristic. **Weight.**—Thatcher consistently outweighed Newthatch, but only in Area D did it outweigh Apex, and in each of the four areas it was slightly exceeded by Regent. **Grades.**—Thatcher was somewhat low in commercial grades, but the difference was not of a marked nature. **Rust.**—Light stem and leaf rust infection was reported. The stem rust infection

was more or less equal, but Thatcher showed slightly more leaf rust infection than the other varieties. **Smut.**—No loose smut was recorded, but a trace and more or less equal percentage of covered smut was reported in only one test. **Shattering.**—Losses were light and approximately equal in all varieties.

FLAX

TABLE No. 34.—AVERAGE YIELD IN BUSHELS PER ACRE

	No. of Satisfactory Tests	Bison	Royal	Redwing	Victory	977	Koto	Necessary Difference in Bushels
Area "A"	4	3.8	6.2	3.8	4.4	3.0	3.0	1.5
Area "B"	3	7.5	9.0	7.2	7.9	7.2	9.1	2.2
Area "C"	6	7.2	11.2	9.2	11.4	10.4	10.9	2.3
Area "D"	4	7.5	9.6	7.1	9.8	8.7	8.8	2.6

YIELD

Table No. 34 shows the average yield of each variety in bushels per acre. In Area A, where drought conditions obtained, Royal excelled, yielding Koto were almost equal, exceeding the other varieties in yielding ability. In Areas C and D, Royal was exceeded by Victory by a difference of only .2 bus. In the drought area the Golden Selection 977 and Koto yielded less than any of the other varieties, but apparently because of their rust resistant qualities they equalled or exceeded Bison and exceeded Redwing in the other areas. Victory showed its best comparative yields in Areas C and D, where moisture was most plentiful, but as we have stated, even in these areas it outyielded Royal by a very small difference. Redwing was exceeded by Royal and Victory in all areas. Rust infection was undoubtedly a factor in reducing the yield of this variety in the regions where flax rust was recorded, but in the drought region where no rust was reported, Royal yielded significantly more than this variety. The effects of rust infection were apparent in the Bison variety, particularly in the areas where moisture was most plentiful, but even in Area A where conditions of severe drought existed and no rust was reported, Royal exceeded Bison by a difference which was significant. Taking the tests as a whole, Royal showed an average yield of 9.3 bus. per acre, outyielding the other varieties by the following differences: Victory .6 bus., Koto 1.1 bus., 977 1.6 bus., Redwing 2.2 bus., and Bison 2.8 bus.

TABLE No. 35.—DAYS FROM SOWING TO RIPENING

	Bison	Royal	Redwing	Victory	977	Koto
Area "A"	101.5	99.5	98.0	103.5	106.5	101.5
Area "B"	118.5	115.5	114.0	120.5	121.0	117.0
Area "C"	114.2	119.2	114.2	118.0	118.0	114.7
Area "D"	106.0	104.0	102.5	109.5	110.5	110.5

DAYS FROM SOWING TO RIPENING

Table No. 35 shows the average number of days required by each variety from sowing to ripening. Owing to abnormal climatic conditions it was extremely difficult for the co-operators to estimate earliness. The absence of freezing temperatures resulted in the flax stems remaining green over a long period. As could be expected, Redwing was shown as the earlist variety in the test. Because of rust infection which would have the tendency of drying out the stems and thus giving Bison the appearance of being ripe, it was expected that the maturity period of the latter variety would be shown as decidedly earlier than Royal. Contrary to these expectations, however, the results show that Royal exceeded Bison in maturity in three of the four areas. The exception was in Area C where Royal was 5 days later than Bison. Because of this marked difference a general average of all tests shows Bison to be slightly earlier than Royal. There were some differences in the comparative ripening dates of the other varieties. In general Koto exceeded Victory in earliness and the latter variety was slightly earlier than 977. Taking the flax tests as a whole, Redwing ripened in an average of 108.6 days, exceeding the other varieties by the following differences: Bison 2.3 days, Royal 2.9 days, Koto 3.1 days, Victory 5.3 days, and the Golden Selection 977 6.2 days.

TABLE No. 36.—AVERAGE HEIGHT OF PLANTS IN INCHES

	Bison	Royal	Redwing	Victory	977	Koto
Area "A"	18.6	18.6	19.0	18.6	18.6	19.0
Area "B"	17.0	16.3	16.0	15.3	16.3	15.6
Area "C"	23.0	21.5	22.2	21.5	21.0	22.2
Area "D"	19.5	21.5	20.5	20.5	22.5	21.5

HEIGHT OF PLANTS

Table No. 36 shows the average height in inches of each flax variety arranged in the Areas A to D. In general there was little difference in the comparative heights of any of the varieties in the different areas. The most marked difference was in Area D where the Golden Selection 977 exceeded Bison by 3 inches. In two out of the four areas, however, Bison excelled in height, and taking the flax project as a whole, Bison, with an average height of 19.8 inches, exceeded the other varieties by differences which ranged from .1 inch in the case of Koto to .7 inch when compared to Victory.

TABLE No. 37.—AVERAGE WEIGHT PER MEASURED BUSHEL IN POUNDS

	Bison	Royal	Redwing	Victory	977	Koto
Area "A"	55.1	55.0	56.2	55.2	54.1	55.9
Area "B"	52.3	52.5	54.0	53.1	50.6	53.5
Area "C"	55.1	53.6	55.7	54.6	53.4	55.1
Area "D"	54.2	54.6	56.0	54.1	53.2	54.6

BUSHEL WEIGHT

The average weight of the flax varieties in each of the four areas appears in Table No. 37. The weights were taken on cleaned samples. This table shows that Redwing consistently outweighed the other varieties. In two areas Koto ranked second to Redwing, and in the other two areas it equalled Bison and Royal in ranking second to the Redwing variety. There was little difference in the weights of Bison, Royal and Victory, the most marked variation being in Area C where Bison exceeded Royal by a difference of 1.5 lbs. The Golden Selection 977 was low in bushel weight in all areas. Over the entire flax project Redwing showed an average weight of 55.6 lbs. per measured bushel, exceeding the other varieties by the following differences: Koto .7 lb., Bison and Victory 1.2 lbs., Royal 1.6 lbs., and 977 2.6 lbs.

TABLE No. 38.—PERCENTAGE OF COMMERCIAL GRADES BY VARIETIES

	1 C.W.	2 C.W.	3 C.W.	4 C.W.
Bison	79.5	8.2	....	12.3
Royal	69.3	12.2	14.5	4.0
Redwing	79.5	16.5	4.0	....
Victory	69.3	4.0	22.7	4.0
977	73.3	8.2	18.5	....
Koto	73.3	16.5	6.2	4.0

COMMERCIAL GRADES

In Table No. 38 the commercial grades of each variety are given in percent. As it will be observed, because of its superiority in bushel weight, Redwing also excelled in grades. In general, Koto ranked second in grading ability. Bison graded comparatively well in most tests, but because of frost damage some samples fell into the 4 C.W. class. There was little difference between the grades of Royal and Victory, although of the two the former variety showed some superiority.

TABLE No. 39.—SUMMARIZED RESULTS FOR AREA "A"

	Bison	Royal	Redwing	Victory	977	Koto
Yield in bus. per acre	3.8	6.2	3.8	4.4	3.0	3.0
Days from sowing to ripening	101.5	99.5	98.0	103.5	106.5	101.5
Height of plants in inches	18.6	18.6	19.0	18.6	18.6	19.0
Bushel weight in pounds	55.1	55.0	56.2	55.2	54.1	55.9
Commercial grades in percentage—						
1 C.W.	100	100	100	100	100	100

Necessary difference—1.5 bus.

AREA A

The results of this area appear in Table No. 39. **Yield.**—Averaging 6.2 bushels per acre, Royal excelled, outyielding the other varieties by the following differences: Victory 1.8 bus., Bison and Redwing 2.4 bus., 977 and Koto 3.2 bus. All of these differences are significant. **Earliness.**—Redwing was the earliest maturing variety, but it exceeded Royal in earliness by only 1.5 days. It was, however, earlier than the other varieties by the following differences: Bison and Koto 3.5 days, Victory 5.5 days, and 977 8.5 days. **Height.**—There was little difference in plant height, Redwing and Koto being only .4 inch taller than the other varieties. **Weight.**—Redwing excelled, outweighing the other varieties by the following differences: Koto .3 lb., Bison 1.1 lbs., Royal 1.2 lbs., Victory 1.0 lbs., and 977 2.1 lbs. **Grades.**—All varieties in this area graded 1 C.W. **Rust.**—Bison showed somewhat more infection than Redwing. A light infection also appeared on Koto. The other varieties were free. **1943 Results.**—Royal yielded significantly more than any of the other varieties. It was reasonably satisfactory in other characteristics, and in this test it was distinctly the best variety. There was very little difference in the comparative performance of the other varieties, but the earliness of Redwing, together with its relatively good bushel weight, would give it some advantage.

TABLE No. 40.—SUMMARIZED RESULTS FOR AREA "B"

	Bison	Royal	Redwing	Victory	977	Koto
Yield in bus. per acre	7.5	9.0	7.2	7.9	7.2	9.1
Days from sowing to ripening	118.5	115.5	114.0	120.5	121.0	117.0
Height of plants in inches	17.0	16.3	16.0	15.3	16.3	15.6
Bushel weight in pounds	52.3	52.5	54.0	53.1	50.6	53.5
Commercial grades in percentage—						
1 C.W.	34	34	34	34	34	34
2 C.W.	33	33	66	....	33	66
3 C.W.	....	33	....	66	33	....
4 C.W.	33	....	....	....	....	....

Necessary difference—2.2 bus.

AREA B

The summarized results for Area B are shown in Table No. 40. **Yield.**—Koto and Royal were almost equal, the difference between these varieties being only .1 bus. Koto, however, outyielded the other varieties by differences as follows: Bison 1.6 bus., Redwing and 977 1.9 bus., Victory 1.2 bus. **Earliness.**—As could be expected, Redwing was the earliest variety. Here again, however, it exceeded Royal by only 1.5 days, but was earlier than the other varieties by the differences shown: Koto 3 days, Bison 4.5 days, Victory 6.5 days, and 977 7 days. **Height.**—Bison was the tallest variety in this zone, exceeding the others by the following differences: Royal and 977 .7 inch, Redwing 1 inch, Koto 1.4 inches, and Victory 1.7 inches. **Weight.**—Redwing outweighed the other varieties by differences as follows: Koto .5 lb., Victory .9 lb., Royal 1.5 lbs., Bison 1.7 lbs., and 977 3.4 lbs. **Grades.**—Some light weight, green, or frosted seeds appeared in nearly all samples. Redwing and Koto tied in commercial grades and showed some superiority to the other varieties. Royal and 977 also tied and were slightly superior to Victory. Bison graded relatively well in most tests, but because of light weight kernels probably the result of rust infection, one-third of the samples were reduced to the 4 C.W. class. **Rust.**—Bison showed decidedly more infection than Redwing. Very light and an approximately equal degree of infection also appeared on the other varieties. **1943 Results.**—The yield of Royal and Koto was almost equal and there was little difference in the general performance of these two varieties. Royal exceeded Koto in earliness and height, while the latter variety exceeded Royal in bushel weight and was somewhat superior in commercial grades. Apart from the earliness and bushel weight of Redwing there was little to choose between the other varieties, none showed any outstanding merit. In general it would appear that while the performance of Koto was more or less equal to Royal, the former showed insufficient merit to warrant its use in preference to Royal.

TABLE No. 41.—SUMMARIZED RESULTS FOR AREA "C"

	Bison	Royal	Redwing	Victory	977	Koto
Yield in bus. per acre	7.2	11.2	9.2	11.4	10.4	10.9
Days from sowing to ripening	114.2	119.2	114.2	118.0	118.0	114.7
Height of plants in inches	23.0	21.5	22.2	21.5	21.0	22.2
Bushel weight in pounds	55.1	53.6	55.7	54.6	53.4	55.1
Commercial grades in percentage—						
1 C.W.	84	68	84	68	84	84
2 C.W.	....	16	....	16	....	....
3 C.W.	....	....	16	....	16	....
4 C.W.	16	16	....	16	....	16

Necessary difference—2.3 bus.

AREA C

The summarized results for Area C appear in Table No. 41. **Yield.**—Victory outyielded Royal by a difference of only .2 bus. It exceeded the other varieties by the differences shown: Koto .5 bus., 977 1.0 bus., Redwing 2.2 bus., and Bison 4.2 bus., but only in the case of Bison was the difference significant. With the exception of Redwing, Bison was also outyielded by all other varieties by differences which are significant. **Earliness.**—Redwing and Bison tied in this area and were only .5 day earlier than Koto. They exceeded Victory and 977, however, by 3.8 days, and Royal by 5 days. **Height.**—Bison excelled, being .8 inch taller than Redwing and Koto, 1.5 inches taller than Royal and Victory, and exceeding 977 by 2 inches. **Weight.**—Redwing outweighed the other varieties by the following differences: Bison and Koto .6 lb., Victory 1.1 lbs., Royal 2.1 lbs., and 977 2.3 lbs. **Grades.**—All varieties showed frosted seeds, but the samples of Royal, Victory and Koto were more affected by frost damage than the others. Redwing and the Golden Selection 977 excelled in commercial grades. Bison and Koto tied, grading somewhat better than Royal and Victory, which also tied. **Rust.**—Bison showed slightly more infection than Redwing. Very light and an approximately equal degree of infection also appeared on the other varieties. **1943 Results.**—While Victory led in grain yield it exceeded Royal by only .2 bus., and in the other major characteristics there was little difference between these two varieties. Koto and Golden Selection 977 yielded comparatively well, but these varieties showed no outstanding merit. Redwing was high in bushel weight and equalled 977 in grades, but this variety also showed no outstanding merit in so far as other characteristics are concerned. All varieties with the exception of Redwing yielded significantly more than Bison. Undoubtedly at least some of this yield inferiority was the result of rust infection and the susceptibility of Bison to this disease is a distinct handicap.

TABLE No. 42.—SUMMARIZED RESULTS FOR AREA "D"

	Bison	Royal	Redwing	Victory	977	Koto
Yield in bus. per acre	7.5	9.6	7.1	9.8	8.7	8.8
Days from sowing to ripening	106.0	104.0	102.5	109.5	110.5	110.5
Height of plants in inches	19.5	21.5	20.5	20.5	22.5	21.5
Bushel weight in pounds	54.2	54.6	56.0	54.1	53.2	54.6
Commercial grades in percentage—						
1 C.W.	100	75	100	75	75	75
2 C.W.	....	....	....	....	....	....
3 C.W.	....	25	....	25	25	25

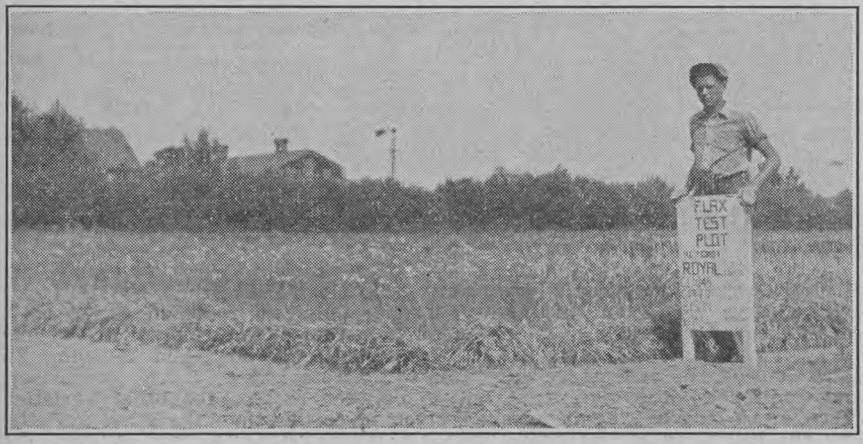
Necessary difference—2.6 bus.

AREA D

The results for Area D are shown in Table No. 42. **Yield.**—Victory was the highest yielder in this area, but here again it exceeded Royal by a difference of only .2 bus. It outyielded the other varieties by the following differences: Koto 1.0 bus., 977 1.1 bus., Bison 2.3 bus., and Redwing 2.7 bus. Only in the case of Redwing was the difference significant. There were no differences of a significant nature between any of the other varieties. **Earliness.**—Redwing again excelled, ripening earlier than the other varieties by the following differences: Royal 1.5 days, Bison 3.5 days, Victory 7.0 days, 977 and Koto 8.0 days. **Height.**—The Golden Selection 977 was the

tallest variety in this area, exceeding the others by the differences shown: Royal and Koto 1 inch, Redwing and Victory 2 inches, and Bison 3 inches. **Weight.**—Redwing again ranked first in bushel weight, outweighing the other varieties by differences as follows: Royal and Koto 1.4 lbs., Bison 1.8 lbs., Victory 1.9 lbs., and 977 2.8 lbs. **Grades.**—Some damaged, green, immature and frosted seeds appeared in a number of samples of all varieties with the exception of Redwing. Bison equalled Redwing in commercial grades, and these varieties graded somewhat better than the other varieties. **Rust.**—No information in connection with rust infection in this area is available. **1943 Results.**—Although Victory was the highest yielder it again exceeded Royal by only .2 bus., and with the exception of Redwing, failed to yield significantly more than any of the other varieties. Royal was 4.5 days earlier than Victory, was slightly taller, showed slightly better bushel weight, and equalled the latter variety in commercial grades. The length of the maturity period of Koto and the Golden Selection 977 is a distinct handicap, and neither of these varieties showed outstanding merit in any characteristic. Apart from grades, the performance of Bison was not outstanding. Redwing also showed good bushel weight and commercial grades, but this would hardly compensate for its yield inferiority. In general Royal and Victory proved most satisfactory in this area and of these varieties the comparative earliness of Royal was a distinct advantage.

The Flax Test of Lorraine Gordon, Moosomin.



Harvey Gray of Ceylon shown beside his Flax Test.

GENERAL SUMMARY OF VARIETAL PERFORMANCE

Varieties Listed in Alphabetical Order

BISON

Yield.—Rust infection undoubtedly resulted in yield losses in the Bison variety, particularly in the areas where moisture was most plentiful, but even in Area A, where drought conditions prevailed and rust infection was not a major factor, Royal yielded significantly more than the Bison variety. Taking the tests as a whole, Bison showed an average yield per acre of 6.5 bus., and was outyielded by the other varieties by the following differences: Redwing .6 bus., 977 1.2 bus., Koto 1.7 bus., Victory 2.2 bus., and Royal 2.8 bus. **Earliness.**—As could be expected, Redwing exceeded Bison in maturity in three out of four areas. As stated in the discussion under "Days from Sowing to Ripening," maturity dates were hard to determine, and contrary to expectations, Bison was later than the Royal variety in Areas A, B and D. In Area C, however, Bison was reported to be 5 days earlier than Royal. Because of the marked difference in this area, taking the tests as a whole, Bison was shown as .6 day earlier than Royal. It also exceeded Koto, Victory and 977 by .8 day, 3 days, and 3.9 days respectively, but was 2.3 days later than Redwing. **Height.**—In Area A all varieties were more or less equal. In Areas B and C, Bison exceeded the other varieties. The most marked difference occurred in Area D where Bison was the shortest variety and was exceeded by 977 by 3 inches. Taking the tests as a whole, however, Bison exceeded the other varieties by slight differences. **Weight.**—Bison was outweighed by Redwing in all areas. There was little difference in comparative weights of Bison, Royal and Victory, although in Area C Bison exceeded the Royal variety by 1.5 lbs. Bison exceeded 977 in each of the four areas, while in each area Koto either equalled or exceeded Bison in bushel weight. An average of all tests shows that Bison was exceeded by Redwing and Koto by differences of 1.2 lbs. and .5 lb. respectively, tied with Victory, outweighed Royal by .4 lb. and exceeded Golden Selection 977 by 1.4 lbs. **Grades.**—Despite rust damage Bison graded comparatively well and had not some samples shown the effects of frost, this variety would have excelled in grading ability. **Rust.**—Bison showed more infection than Redwing and decidedly more than the other varieties.

GOLDEN SELECTION 977

Yield.—Although the Golden Selection 977 equalled Koto in Area A, equalled Redwing in Area B, and outyielded one or two of the other varieties in the other areas, with the exception of Area C, where it yielded 3.2 bus. more than Bison, it failed to outyield any of the varieties by marked differences, and generally with the exception of Bison and Redwing it was the lowest yielder in the test. A general average of all tests shows that 977 produced 7.7 bus. per acre. In this comparison it outyielded Redwing by a difference of .6 bus. and Bison by 1.2 bus., but was exceeded by the other varieties by the following differences: Koto .5 bus., Victory 1.0 bus., and Royal 1.6 bus. **Earliness.**—In Area C 977 tied with Victory and was shown to be approximately 1 day earlier than Royal. In this area it was later than the other varieties. In Area D it equalled Koto, but was later than the other varieties, and in Areas A and B it was later than any of the others. **Height.**—977 showed its best comparative height in Area D where moisture was most plentiful. In this area it excelled. Taking the flax project as a whole, there was little difference in the heights of any of the varieties. **Weight.**—977 was exceeded by the other varieties in all four areas. Over the whole project it showed an average weight of 53.0 lbs., being outweighed by the following differences: Royal 1 lb., Bison and Victory 1.4 lbs., Koto 1.9 lbs., and Redwing 2.6 lbs. **Grades.**—With the exception of Victory and Royal, the Golden Selection was slightly inferior to the other varieties in commercial grades. **Rust.**—In the percentage of rust infection recorded, 977 showed slightly more than Victory, slightly less than Royal or Koto, and decidedly less than Bison or Redwing.

KOTO

Yield.—Koto showed its best comparative yield in Area B where it exceeded Royal by a very slight difference and outyielded the other varieties by differences ranging from 1.2 bus. to 1.9 bus. Taking the tests as a whole, Koto ranked third in yielding ability. It was exceeded by Victory and Royal by .5 bus. and 1.1 bus. respectively, but outyielded the other varieties by the following differences: 977 .5 bus., Redwing 1.1 bus., and Bison 1.7 bus. **Earliness.**—While variations occurred in the different areas, taking the flax project as a whole, Koto required an average of 111.7 days to reach maturity. In this comparison it was earlier than Victory and 977 by 2.2 days and 3.1 days respectively. It was practically equal in its maturity period to Royal, but was .8 day later than Bison and 3.1 days later than Redwing. **Height.**—There was little difference in comparative heights, but in the general average it was only slightly shorter than Bison and exceeded the other varieties by slight differences. **Weight.**—Koto was outweighed by Redwing in all areas. In Area C it tied with Bison and in Area D it was equal to Royal, but Koto outweighed the other varieties in all areas. **Grades.**—In general Koto ranked second to Redwing and exceeded the other varieties in grading ability. **Rust.**—The percentage of infection appearing on Koto was slightly more than the infection appearing on Royal, Victory or 977, but decidedly less than the infection recorded in connection with Bison and Redwing.

REDWING

Grain Yield.—Redwing was outyielded by Royal and Victory in each of the four areas. Rust infection appeared on this variety in some areas. Undoubtedly the disease was a factor in reducing yielding ability, but in the drought stricken Area A Royal yielded significantly more than the Redwing variety. Taking the tests as a whole, Redwing showed an average yield of 7.1 bus. per acre. It outyielded Bison by .6 bus., but was exceeded in yield by the other varieties by the following differences: 977 .6 bus., Koto 1.1 bus., Victory 1.6 bus., and Royal 2.2 bus. **Earliness.**—As could be expected, Redwing excelled in earliness. In Area C it is reported that Bison tied with Redwing, but over the whole test the latter variety exceeded the others by the following differences: Bison 2.3 days, Royal 2.9 days, Koto 3.1 days, Victory 5.3 days, and 977 6.2 days. (See remarks under "Days from Sowing to Ripening.") **Height.**—Variations in comparative heights occurred in the different areas, but in general, Redwing was intermediate in this characteristic. **Weight.**—Redwing consistently excelled. Taking the flax project as a whole it outweighed the other varieties by the following differences: Koto .7 lb., Bison and Victory 1.2 lbs., Royal 1.6 lbs., and 977 2.6 lbs. **Grades.**—Redwing also excelled in commercial grades. **Rust.**—Redwing showed less infection than Bison, but decidedly more than the other varieties.

ROYAL

Yield.—In Area A Royal yielded significantly more than any of the other varieties. In the Areas B, C and D it was exceeded by only one other variety by very slight differences, but over the whole project it averaged 9.3 bus. per acre and exceeded the other varieties by the following differences: Victory .6 bus., Koto 1.1 bus., 977 1.6 bus., Redwing 2.2 bus., and Bison 2.8 bus. **Earliness.**—As we have stated under "Days from Sowing to Ripening," because of abnormal weather conditions in the fall of 1943, the stems of all varieties remained green for a considerable period. Royal was particularly affected and it is reasonable to assume that the rust infection which appeared on Bison would have a tendency to dry out the stems of the latter variety. Nevertheless, in three out of the four areas Royal is shown to have ripened earlier than Bison. The exception is in Area C, where Royal was reported to have been 5 days later than Bison. Because of this marked difference, a general average showed that Bison was somewhat earlier than Royal. Taking the flax tests as a whole, Royal was exceeded in its maturity period by Bison and Redwing by .6 day and 2.9 days respectively, was almost equal to Koto, but ripened earlier than Victory and 977 by 2.4 days and 3.3 days respectively. **Height.**—There was little difference in the comparative heights of any of the varieties. **Weight.**—Royal

showed its best comparative weight in Area D where it equalled Koto and was exceeded only by Redwing. An average of all tests, however, showed that Royal outweighed 977 by 1 lb., but was exceeded by the other varieties by the following differences: Bison and Victory .4 lb., Koto .9 lb., Redwing 1.6 lbs. **Grades.**—Royal was slightly superior in grading ability to Victory, but was somewhat inferior to the other varieties. **Rust.**—Royal showed decidedly less infection than Bison or Redwing, slightly less than Koto, and only slightly more than Victory and 977.

VICTORY

Yield.—Victory excelled in Areas C and D, but even here it exceeded Royal by only very slight differences. In general it ranked second to Royal in yielding ability. Taking the tests as a whole, Victory showed an average yield of 8.7 bus. It was exceeded by Royal by .6 bus., but outyielded the other varieties by the differences shown: Koto .5 bus., 977 1 bus., Redwing 1.6 bus., and Bison 2.2 bus. **Earliness.**—In Area C Victory was 1.2 days earlier than Royal, but in the other areas Victory was from 2 days to 7 days later than the varieties now in general use throughout Saskatchewan. Taking the tests as a whole, Victory required an average of 113.9 days to reach maturity. It ripened nearly 1 day earlier than the Golden Selection 977, but was later than the other varieties by the following differences: Koto 2.2 days, Royal 2.4 days, Bison 3 days, and Redwing 5.3 days. **Height.**—There was little difference in comparative heights, but a general average shows that Victory was slightly shorter than the others. **Weight.**—Redwing and Koto outweighed Victory in all areas. There was some variation in the comparative weights of Victory and Bison in the different areas, but taking the tests as a whole these varieties were more or less equal. In Area D Royal outweighed Victory by .5 lb., but in the other areas the latter variety exceeded Royal by small differences. Over the whole project Victory showed an average bushel weight of 54.4 lbs. In this comparison it tied with Bison, outweighed Royal and 977 by .4 lb. and 1.4 lbs. respectively, but was exceeded by Koto by a difference of .5 lb. and Redwing by 1.2 lbs. **Grades.**—Victory was generally inferior to the other varieties in commercial grades. **Rust.**—Victory showed the smallest percentage of rust infection. It was decidedly less infected than Bison or Redwing, and the infection appearing on Victory was slightly less than the infection appearing on the other varieties.

INDIVIDUAL RESULTS

Tables Nos. 43, 44 and 45 show the individual results obtained by each co-operator arranged by Wheat Pool Districts. A careful perusal of these tables will allow a co-operator to study his results with those of his fellow co-operators. Thus, Roger W. Peterson of Radville, who conducted a Barley Test, and whose test designation is "B" Sub-district 1, District 2, finds that Plush yielded at the rate of 14.1 bus. more than O.P.R. 1. The necessary difference in yield in this test is 7.6 bus. Thus, as 14.1 bus. is more than 7.6 bus., Plush yielded, under the conditions of the test and irrespective of soil variability, significantly more than O.P.R. 1. After examining in this way the results of his own test, Roger Peterson turns to the test conducted in his district by Charles A. Loucks of Pangman, and finds that here also Plush outyielded O.P.R. 1 significantly. An examination of the results throughout the table will reveal the fact that the varieties do not retain similar relationships in the different areas of the Province, in fact, sometimes not even in tests which are relatively close together. Differences of this nature may be due to several causes, the most important being differences in soil, in local weather conditions, or in the date of sowing. A few days' difference in seeding dates in the same field may give an appreciable difference in results. However, each individual test gives an accurate indication of the comparative performance of the varieties under the conditions existing on the farm where the test was made for the year 1943. An explanation is needed respecting the data on commercial grades. The commercial grade of a variety is determined by many factors. The most important factor, of course, is the weight per measured bushel. Sometimes, however, features such as green, shrunken or bleached kernels will lower

the grade regardless of bushel weight. These features must be taken into consideration when studying the individual summarized results. In this report it is impossible to show the exact extent to which the defects have reduced the grade of any variety but included in the individual summarized results, under the heading of "Grading Remarks," enough information is given to make the defects easily recognizable. The following abbreviations have been used to indicate the various defects: V.g.—Very green; G.—Green; Sl. g.—Slightly green; Sh.—Shrunken; Sl. i.—Slightly immature; I.—Immature; Bl.—Bleached; S. bl.—Some bleached; B. bl.—Badly bleached; S. st.—Some starchy; St.—Starchy; V. st.—Very starchy; S. sp.—Some sprouted; Sp.—Sprouted; Lw.—Light weight; B. p.—Black point; S. b. p.—Some black point; F.—Frosted; W.—Weathered; Sl. w.—Slightly weathered; B. w.—Badly weathered; Pl.—Peeled; M.—Mildewed; Dgd.—Damaged; E.—Ergoty; Sl. e.—Slightly Ergoty; Stn.—Stained; S. stn.—Slightly stained; B. stn.—Badly stained; Spl.—Split.

The Flax Test of Ray Toner, Bengough.

Grant Ross Bateman of Red Jacket shown in his Barley Test.

TABLE No. 43

Individual Summarized Results of All Tests

BARLEY

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
IRVINE CHAS. COLQUHOUN, GAINSBOROUGH												
3A	1	1	A	OPR 1	54.2	34	93	7.0	2.0	51.0	1 CW 6-R	
..	..	..	..	Plush	63.5	37	95	7.5	1.7	48.5	3 CW 6-R	
..	..	..	..	Rex	49.2	35	92	9.5	2.2	52.0	1 CW 2-R	
..	..	..	..	Newal	51.6	34	95	6.5	2.2	48.5	3 CW 6-R	
..	..	..	..	Prospect..	51.7	31	97	7.0	2.0	50.0	3 CW 6-R	
No significant grain yield difference between varieties.												
ROSARIO BOUTIN, CANTAL												
3A	1	2	A	OPR 1	40.0	36	80	8.2	2.5	50.5	2 CW 6-R	
..	..	..	..	Plush	34.3	30	82	9.0	2.0	48.0	3 CW 6-R	
..	..	..	..	Rex	39.9	35	78	9.0	1.2	51.5	1 CW 2-R	
..	..	..	..	Newal	45.0	30	79	8.0	2.2	47.5	3 CW 6-R	
..	..	..	..	Prospect..	34.6	30	78	7.0	3.0	48.5	1 Fd.	G.
No significant grain yield difference between varieties.												
ALLAN MURRAY DUNNIGAN, ALAMEDA												
3A	1	3	A	OPR 1	32.1	....	82	6.5	2.7	50.5	2 CW 6-R	
..	..	..	..	Plush	37.8	....	85	8.5	1.2	47.5	3 CW 6-R	
..	..	..	..	Rex	38.3	....	85	9.0	1.0	52.0	1 CW 2-R	
..	..	..	..	Newal	41.4	....	83	6.5	2.2	48.0	3 CW 6-R	
..	..	..	..	Prospect..	38.3	....	82	5.2	2.5	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												
ARTHUR DENZIL ASPINALL, NORTH PORTAL												
2A	1	4	A	OPR 1	32.5	....	....	....	....	51.5	1 CW 6-R	
..	..	..	..	Plush	47.1	....	....	....	....	49.5	3 CW 6-R	
..	..	..	..	Rex	42.3	....	....	....	....	53.0	1 CW 2-R	
..	..	..	..	Newal	48.5	....	....	....	....	49.0	3 CW 6-R	
..	..	..	..	Prospect..	39.6	....	....	....	....	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												
EMERSON DOUGLAS GOUD, ESTEVAN												
2A	1	5	A	OPR 1	36.1	27	72	10.0	2.0	45.0	2 Fd.	Lw.
..	..	..	..	Plush	33.6	24	74	9.0	2.0	45.0	2 Fd.	Lw.
..	..	..	..	Rex	36.1	25	74	10.0	2.0	49.0	2 CW 2-R	
..	..	..	..	Newal	39.6	24	74	9.0	2.0	43.5	2 Fd.	Lw.
..	..	..	..	Prospect..	36.1	28	72	10.0	2.0	44.0	2 Fd.	Lw.
No significant grain yield difference between varieties.												
DOUGLAS GEORGE McWILLIAMS, OUTRAM												
2A	1	6	B	OPR 1	30.4	25	....	8.7	2.5	48.5	3 CW 6-R	
..	..	..	..	Plush	37.6	25	....	8.7	1.7	45.0	2 Fd.	Lw.
..	..	..	..	Rex	29.1	24	....	7.0	1.5	51.0	1 CW 2-R	
..	..	..	..	Newal	40.6	24	....	7.0	2.5	45.0	2 Fd.	Lw.
..	..	..	..	Prospect..	37.8	25	....	6.7	2.0	47.5	3 CW 6-R	
No significant grain yield difference between varieties.												
WM. AUGUST McDOWELL, GRIFFIN												
2A	1	8	A	OPR 1	25.3	30	92	8.5	2.5	50.0	2 CW 6-R	
..	..	..	..	Plush	41.9	29	92	8.5	1.0	46.5	1 Fd.	G. Stn.
..	..	..	..	Rex	37.4	29	92	8.0	1.7	52.0	2 CW 2-R	
..	..	..	..	Newal	43.4	29	92	8.2	2.5	49.0	3 CW 6-R	
..	..	..	..	Prospect..	34.9	31	92	8.5	2.0	47.5	3 CW 6-R	
Necessary difference—8.6 bus.												
LESLIE HEWITT, WORDSWORTH												
3A	1	10	A	OPR 1	31.6	35	81	8.0	1.7	45.5	1 Fd.	Lw.
..	..	..	..	Plush	36.2	33	83	9.2	2.0	46.0	1 Fd.	G.
..	..	..	..	Rex	32.6	31	84	6.7	1.2	49.5	1 Fd.	G.
..	..	..	..	Newal	36.9	34	81	7.7	1.5	43.0	2 Fd.	Lw.
..	..	..	..	Prospect..	27.2	34	78	7.2	1.7	44.5	2 Fd.	Lw.
No significant grain yield difference between varieties.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

2A	1	4	B	George William Chamney, Kingsford
2A	1	5	B	Victor Cliffton Sellsted, Box 9, Benson
2A	1	9	A	Arnold G. and Alvin H. Johnston, Kisbey

WHEAT POOL DISTRICT 2

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
ROGER WILLIS PETERSON, BOX 182, RADVILLE												
2A	2	1	B	OPR 1	31.7	31	97	6.5	2.0	49.0	2 CW 6-R	
..	..	..	..	Plush	45.8	37	97	8.5	1.5	47.5	3 CW 6-R	
..	..	..	..	Rex	42.6	30	95	8.2	1.2	51.0	1 CW 2-R	
..	..	..	..	Newal	48.5	33	96	8.0	3.0	49.0	3 CW 6-R	
..	..	..	..	Prospect..	34.4	30	95	8.7	2.7	48.0	3 CW 6-R	
Necessary difference—7.6 bus.												
DAVID PATERSON, HART												
1A	2	3	B	OPR 1	37.1	24	90	9.7	3.0	50.0	2 CW 6-R	
..	..	..	..	Plush	32.0	22	89	9.0	2.7	49.0	3 CW 6-R	Stn.
..	..	..	..	Rex	37.3	25	91	8.7	3.0	52.5	1 Fd.	G.
..	..	..	..	Newal	37.7	23	89	9.2	3.0	48.5	3 CW 6-R	
..	..	..	..	Prospect..	35.1	24	90	9.7	2.5	49.5	3 CW 6-R	4% Pl.
No significant grain yield difference between varieties.												
KENNETH MAXWELL GALLOWAY, MACWORTH												
1A	2	5	A	OPR 1	22.5	35	94	4.7	2.5	52.0	1 CW 6-R	
..	..	..	..	Plush	31.3	35	101	7.7	1.2	49.5	3 CW 6-R	
..	..	..	..	Rex	20.0	35	94	6.7	1.2	52.0	1 Fd.	G. Sl e.
..	..	..	..	Newal	18.2	35	99	4.7	3.0	50.5	3 CW 6-R	
..	..	..	..	Prospect..	19.2	36	97	6.5	1.2	49.0	3 CW 6-R	
Necessary difference—4.6 bus.												
ROSS HARVEY McKEE, STRATHALLEN												
1A	2	5	B	OPR 1	32.6	29	89	7.7	1.5	49.0	3 CW 6-R	
..	..	..	..	Plush	33.3	30	91	8.7	1.0	46.0	1 Fd.	G.
..	..	..	..	Rex	23.1	28	90	9.2	1.2	52.0	2 CW 2-R	Sl. g.
..	..	..	..	Newal	28.1	29	90	8.7	2.5	46.5	1 Fd.	G.
..	..	..	..	Prospect..	29.7	28	89	9.0	1.2	46.0	3 CW 6-R	
No significant grain yield difference between varieties.												
NEIL ALLEN POMRENKE, CONGRESS												
1A	2	7	B	OPR 1	36.8	28	83	9.0	1.0	52.0	1 CW 6-R	
..	..	..	..	Plush	42.1	28	83	9.0	1.0	52.0	3 CW 6-R	
..	..	..	..	Rex	40.6	28	83	9.0	1.0	55.0	1 CW 2-R	
..	..	..	..	Newal	32.2	28	83	9.0	1.0	50.0	3 CW 6-R	
..	..	..	..	Prospect..	30.2	28	83	9.0	1.0	52.5	3 CW 6-R	
No significant grain yield difference between varieties.												
DALE DOUGLAS, OGEMA												
1A	2	9	A	OPR 1	23.8	31	85	9.2	2.5	51.0	1 CW 6-R	
..	..	..	..	Plush	24.9	29	90	9.7	1.7	48.5	3 CW 6-R	
..	..	..	..	Rex	26.2	30	89	9.7	2.0	51.5	1 CW 2-R	
..	..	..	..	Newal	22.9	29	89	9.7	3.0	49.0	3 CW 6-R	
..	..	..	..	Prospect..	21.4	31	89	9.7	2.2	51.5	3 CW 6-R	Sl. g.
No significant grain yield difference between varieties.												
EDGAR C. BUTTON, OGEMA												
1A	2	9	B	OPR 1	37.1	30	86	3.0	1.0	48.5	3 CW 6-R	
..	..	..	..	Plush	56.7	30	83	5.0	1.0	44.5	2 Fd.	Lw.
..	..	..	..	Rex	54.1	30	88	3.0	3.0	51.0	2 CW 2-R	Sl. g.
..	..	..	..	Newal	51.9	30	85	2.0	1.0	46.5	3 CW 6-R	
..	..	..	..	Prospect..	43.5	30	83	5.0	1.0	47.0	3 CW 6-R	
Necessary difference—7.7 bus.												
CHARLES ANDREW LOUCKS, BOX 42, PANGMAN												
2A	2	10	A	OPR 1	24.5	32	94	9.0	1.0	49.0	2 CW 6-R	
..	..	..	..	Plush	38.0	34	94	9.0	1.2	49.0	3 CW 6-R	
..	..	..	..	Rex	43.0	35	94	9.0	1.5	52.0	1 CW 2-R	
..	..	..	..	Newal	37.5	33	94	9.0	1.0	49.0	3 CW 6-R	
..	..	..	..	Prospect..	34.5	34	94	9.0	1.0	48.5	3 CW 6-R	
Necessary difference—9.2 bus.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

2A	2	1	A	Ronald Boyd Mills, Lake Alma
1A	2	6	A	Aimie Greffard, Fir Mountain

WHEAT POOL DISTRICT 3

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
BRUCE GEORGE WALKER, RELIANCE												
1A	3	2	A	OPR 1	41.9	32	91	9.2	1.5	47.5	1 Fd.	G.
..	..	..	..	Plush	39.7	32	94	10.0	1.0	45.0	2 Fd.	Lw.
..	..	..	..	Rex	36.9	30	95	10.0	2.5	51.1	1 Fd.	G.
..	..	..	..	Newal	44.3	32	91	10.0	2.7	46.5	1 Fd.	G.
..	..	..	..	Prospect..	36.8	33	87	10.0	1.0	46.5	1 Fd.	G.
Necessary difference—4.4 bus.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

1A	3	3	B	Harold Bitschy, Climax
1A	3	5	A	Paul Edward Wenaas, Robsart
1A	3	5	C	Jack F. Wagner, Senate
1A	3	7	A	Orval Morris Chatterson, Eastbrook
1A	3	10	A	Horace John Pilgrim, Box 76, Aneroid

WHEAT POOL DISTRICT 4

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
WILFRED ALVIN SANDOU, MAPLE CREEK												
1B	4	2	A	OPR 1	10.8	18	66	8.0	2.0	50.0	3 CW 6-R	
..	..	..	..	Plush	12.6	21	68	8.7	1.0	42.5	3 Fd.	Lw.
..	..	..	..	Rex	16.8	20	67	8.5	1.0	50.0	2 CW 2-R	
..	..	..	..	Newal	16.1	21	65	8.7	1.0	44.5	2 Fd.	Lw.
..	..	..	..	Prospect..	19.2	19	66	9.0	1.0	47.0	3 CW 6-R	
Necessary difference—2.3 bus.												
GLEN AND HARVE REDICK, MAPLE CREEK												
1B	4	6	A	OPR 1	4.4	22	....	7.0	2.0	42.0	3 Fd.	Lw.
..	..	..	..	Plush	9.2	28	....	8.0	2.0	39.5	3 Fd.	Lw.
..	..	..	..	Rex	10.1	26	....	9.0	2.0	46.0	1 Fd.	Lw.
..	..	..	..	Newal	7.9	28	....	9.0	3.0	42.0	3 Fd.	Lw.
..	..	..	..	Prospect..	10.4	29	....	8.0	3.0	42.0	3 Fd.	Lw.
Necessary difference—2.7 bus.												
CARL ALBRECHT, JR., LINACRE												
1B	4	7	B	OPR 1	23.1	21	90	9.0	1.7	48.5	2 CW 6-R	
..	..	..	..	Plush	22.5	22	91	8.7	1.5	43.5	2 Fd.	Lw.
..	..	..	..	Rex	27.2	23	90	10.0	1.7	49.5	2 CW 2-R	
..	..	..	..	Newal	29.0	23	90	8.0	2.7	45.5	2 Fd.	Lw.
..	..	..	..	Prospect..	24.7	22	90	9.2	2.5	45.0	2 Fd.	Lw.
Necessary difference—3.1 bus.												
MELVIN ANDERSON COULTER, ABBEY												
1A	4	10	B	OPR 1	6.0	....	89	9.0	3.0	49.0	1 Fd.	G.
..	..	..	..	Plush....	7.3	....	90	9.0	3.0	43.0	2 Fd.	Lw.
..	..	..	..	Rex	5.8	....	88	8.7	3.0	46.5	1 Fd.	Lw.
..	..	..	..	Newal	4.3	....	89	8.5	3.0	45.0	2 Fd.	Lw.
..	..	..	..	Prospect..	7.7	....	88	9.2	3.0	47.0	1 Fd.	G.
Necessary difference—1.9 bus.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

1B	4	8	A	Herbert Lang, Burstall

WHEAT POOL DISTRICT 5

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
WILLIAM LAWRENCE OEHLERKING, GRAVELBOURG												
1A	5	2	A	OPR 1	32.4	....	....	....	....	49.0	2 CW 6-R	
..	..	..	..	Plush	35.6	....	....	....	....	46.5	3 CW 6-R	
..	..	..	..	Rex	38.7	....	....	....	....	50.5	2 CW 2-R	
..	..	..	..	Newal	29.2	....	....	....	....	46.0	2 CW 6-R	
..	..	..	..	Prospect..	27.7	....	....	....	....	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												
DAVID JACOB HAMM, NEVILLE												
2C	5	3	A	OPR 1	28.3	30	90	9.2	1.5	47.0	3 CW 6-R	
..	..	..	..	Plush	29.0	31	90	10.0	1.0	46.5	3 CW 6-R	
..	..	..	..	Rex	32.6	30	90	9.2	1.7	51.0	1 Fd.	G.
..	..	..	..	Newal	37.3	29	90	9.3	3.0	47.5	3 CW 6-R	
..	..	..	..	Prospect..	34.2	31	90	10.0	1.0	46.0	3 CW 6-R	
Necessary difference—5.0 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
EDWIN CHARLES VEER, WALDECK												
1A	5	4	A	OPR 1	14.6	....	....	....	....	51.5	1 Fd.	G.
..	..	..	..	Plush	23.1	....	....	....	....	49.0	1 Fd.	G.
..	..	..	..	Rex	18.8	....	....	....	....	52.0	1 Fd.	G.
..	..	..	..	Newal	20.2	....	....	....	....	50.5	1 Fd.	G.
..	..	..	..	Prospect..	14.8	....	....	....	....	48.5	1 Fd.	G.
Necessary difference—3.6 bus.												
RUDOLF D. SCHOENROTH, BOX 105, HODGEVILLE												
1A	5	5	A	OPR 1	32.4	30	85	9.0	3.0	50.0	1 Fd.	G.
..	..	..	..	Plush	41.7	30	85	9.0	2.0	48.0	3 CW 6-R	
..	..	..	..	Rex	34.4	30	85	9.0	3.0	52.0	1 Fd.	G.
..	..	..	..	Newal	35.3	30	85	8.0	2.0	49.5	1 Fd.	G.
..	..	..	..	Prospect..	36.1	30	85	9.0	2.0	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												
FRANK BELL REILLY CAREY, CODERRE												
1A	5	6	A	OPR 1	10.6	....	....	....	....	50.0	1 Fd.	G.
..	..	..	..	Plush	17.5	....	....	....	....	47.0	1 Fd.	G.
..	..	..	..	Rex	20.6	....	....	....	....	51.5	1 Fd.	G.
..	..	..	..	Newal	16.7	....	....	....	....	49.0	1 Fd.	G.
..	..	..	..	Prospect..	15.2	....	....	....	....	48.5	1 Fd.	G.
Necessary difference—3.5 bus.												
DAVID GILBERT MORGAN, OLD WIVES												
1A	5	6	B	OPR 1	22.7	31	89	10.0	1.0	50.0	1 Fd.	G.
..	..	..	..	Plush	27.7	27	89	10.0	1.0	48.5	1 Fd.	G.
..	..	..	..	Rex	26.0	29	89	9.0	1.0	51.5	1 Fd.	G. Stn.
..	..	..	..	Newal	26.0	30	86	8.0	1.0	48.0	1 Fd.	G.
..	..	..	..	Prospect..	20.2	30	86	9.0	1.0	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												
PATRICK WILLIAMS, HALVORGATE												
1A	5	9	A	OPR 1	43.0	....	....	....	....	47.0	3 CW 6-R	
..	..	..	..	Plush	46.0	....	....	....	....	45.0	2 Fd.	Lw.
..	..	..	..	Rex	....	....	....	....	....	....		
..	..	..	..	Newal	57.6	....	....	....	....	47.0	3 CW 6-R	
..	..	..	..	Prospect..	44.6	....	....	....	....	46.5	3 CW 6-R	
Samples incomplete.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

1A	5	5	B	Bernhard Peters, Kelstern
1A	5	7	B	Harold Lloyd McBride, Grayburn
1A	5	9	B	Richard John Gleim, Chaplin
1A	5	10	A	John Richard Smith, Calderbank

WHEAT POOL DISTRICT 6

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
ARTHUR JAMES WINTRINGHAM, BOX 39, LEWVAN												
2E	6	1	A	OPR 1	15.4	32	94	....	....	50.0	1 Fd.	G.
..	..	..	..	Plush	19.0	31	96	....	....	46.0	1 Fd.	G.
..	..	..	..	Rex	18.1	33	95	....	....	48.5	1 Fd.	G.
..	..	..	..	Newal	18.2	34	94	....	....	47.5	1 Fd.	G.
..	..	..	..	Prospect..	14.3	30	92	....	....	48.0	1 Fd.	G.
No significant grain yield difference between varieties.												
GERALD GLAZE, SEDLEY												
2E	6	2	A	OPR 1	24.8	....	....	....	....	49.0	2 CW 6-R	
..	..	..	..	Plush	42.8	....	....	....	....	43.0	2 Fd.	Lw.
..	..	..	..	Rex	36.6	....	....	....	....	46.0	1 Fd.	Lw.
..	..	..	..	Newal	44.4	....	....	....	....	43.0	2 Fd.	Lw.
..	..	..	..	Prospect..	40.5	....	....	....	....	43.5	2 Fd.	Lw.
Necessary difference—4.3 bus.												
THELMA LUCILLE TERRY, WILCOX												
2E	6	3	A	OPR 1	19.8	28	87	6.0	3.0	51.5	1 Fd.	G.
..	..	..	..	Plush	21.2	27	87	5.5	3.0	49.0	1 Fd.	G.
..	..	..	..	Rex	19.3	29	87	8.0	2.2	52.0	1 Fd.	G.
..	..	..	..	Newal	20.9	28	88	6.5	3.0	51.5	1 Fd.	G.
..	..	..	..	Prospect..	18.8	27	86	6.5	3.0	50.0	3 CW 6-R	
No significant grain yield difference between varieties.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
JOHN F. WEISSHAAR, WILCOX												
2E	6	3	B	OPR 1	9.8	....	....	....	....	48.0	3 CW 6-R	
..	..	..	..	Plush	32.0	....	....	....	....	44.5	2 Fd.	Lw.
..	..	..	..	Rex	14.9	....	....	....	....	49.5	2 CW 2-R	
..	..	..	..	Newal	21.5	....	....	....	....	46.5	1 Fd.	Lw.
..	..	..	..	Prospect..	9.2	....	....	....	....	45.5	2 Fd.	Lw.
Samples bulked.												
LAWRENCE FUNKE, CLAYBANK												
1A	6	4	A	OPR 1	25.7	23	79	9.0	2.0	50.0	2 CW 6-R	
..	..	..	..	Plush	32.4	22	80	9.2	2.2	47.0	3 CW 6-R	
..	..	..	..	Rex	27.2	24	80	9.5	2.0	47.5	1 Fd.	Lw.
..	..	..	..	Newal	29.2	21	80	9.7	3.0	48.0	3 CW 6-R	
..	..	..	..	Prospect..	27.8	22	80	9.2	1.7	47.5	3 CW 6-R	
No significant grain yield difference between varieties.												
JOHN FILAZEK, JR., SPRING VALLEY												
1A	6	4	B	OPR 1	30.7	33	80	10.0	2.0	50.0	2 CW 6-R	
..	..	..	..	Plush	41.3	30	81	10.0	1.0	46.0	3 CW 6-R	
..	..	..	..	Rex	37.4	28	81	10.0	1.0	51.5	2 CW 2-R	Sl. g.
..	..	..	..	Newal	46.4	36	77	10.0	1.0	47.5	3 CW 6-R	
..	..	..	..	Prospect..	40.4	30	75	9.0	1.0	48.5	3 CW 6-R	
Necessary difference—3.7 bus.												
DONALD WILSON SMITH, BOHARM												
2E	6	5	B	OPR 1	44.0	28	83	9.0	1.7	51.5	2 CW 6-R	
..	..	..	..	Plush	48.5	27	86	10.0	1.0	48.0	1 Fd.	G.
..	..	..	..	Rex	42.2	27	81	10.0	1.0	51.0	1 Fd.	Stn. G.
..	..	..	..	Newal	43.8	28	84	7.0	2.0	49.0	3 CW 6-R	
..	..	..	..	Prospect..	35.6	28	81	8.0	1.0	50.0	1 Fd.	G.
Necessary difference—4.4 bus.												
DOUGLAS LORNE BATES, GRAND COULEE												
2E	6	7	B	OPR 1	7.4	17	....	10.0	....	53.0	2 CW 6-R	4% Pl.
..	..	..	..	Plush	10.1	17	....	10.0	....	51.5	3 CW 6-R	4% Pl.
..	..	..	..	Rex	9.9	17	....	10.0	....	53.0	1 CW 2-R	
..	..	..	..	Newal	6.6	17	....	10.0	....	51.0	3 CW 6-R	
..	..	..	..	Prospect..	4.6	17	....	10.0	....	51.0	3 CW 6-R	3% Pl.
Necessary difference—2.1 bus.												
HAROLD CLIFFORD STRUTHERS, BETHUNE												
2B	6	10	B	OPR 1	6.0	27	85	9.0	1.0	45.0	2 Fd.	Lw.
..	..	..	..	Plush	6.4	25	85	9.0	1.0	43.0	2 Fd.	Lw.
..	..	..	..	Rex	3.4	25	86	9.0	1.0	45.0	2 Fd.	Lw.
..	..	..	..	Newal	9.5	26	86	9.0	1.0	43.0	2 Fd.	Lw.
..	..	..	..	Prospect..	5.5	24	84	9.0	1.0	45.0	2 Fd.	Lw.
Samples bulked.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

1A	6	5	A	Gordon Ernest Tysdal, Briercrest
3C	6	8	A	Clarence Douglas Stanger, Box 152, Indian Head
3C	6	8	B	Robert Samuel Davies, Avonhurst
2B	6	10	A	Douglas Gibson Templeton, Lumsden

WHEAT POOL DISTRICT 7

Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
GRANT ROSS BATEMAN, RED JACKET												
3A	7	2	A	OPR 1	66.0	24	88	....	....	45.5	2 Fd.	Lw. Stn.
..	..	..	..	Plush	57.6	24	88	....	....	42.0	3 Fd.	Lw. Stn.
..	..	..	..	Rex	55.7	24	88	....	....	46.5	1 Fd.	Stn.
..	..	..	..	Newal	59.2	24	88	....	....	47.5	1 Fd.	Stn.
..	..	..	..	Prospect..	45.2	24	88	....	....	46.0	1 Fd.	Stn.
Necessary difference—5.6 bus.												
DONALD WILLIAM DEBENHAM, KENNEDY												
3A	7	3	A	OPR 1	42.4	37	83	9.0	1.0	51.0	2 CW 6-R	
..	..	..	..	Plush	44.6	35	83	9.0	1.0	49.0	1 Fd.	G.
..	..	..	..	Rex	41.6	38	83	9.0	1.0	51.5	1 Fd.	G.
..	..	..	..	Newal	45.0	36	83	5.0	2.0	51.5	1 Fd.	G.
..	..	..	..	Prospect..	33.6	35	83	8.0	1.0	49.5	3 CW 6-R	
Necessary difference—2.9 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
FRED ALEXANDER EASTON, HIGH VIEW												
3A	7	3	B	OPR 1	52.0	....	....	....	....	52.0	1 Fd.	G.
..	..	..	..	Plush	46.4	....	....	....	....	52.0	1 Fd.	G.
..	..	..	..	Rex	43.5	....	....	....	....	54.5	2 CW 2-R	Sl. g.
..	..	..	..	Newal	52.7	....	....	....	....	51.0	3 CW 6-R	
..	..	..	..	Prospect..	41.7	....	....	....	....	52.0	3 CW 6-R	Sl. g.
Necessary difference—2.9 bus.												
HOWARD ALLEN KELLER, KIPLING												
3A	7	4	A	OPR 1	34.4	23	89	7.5	1.7	49.5	2 CW 6-R	
..	..	..	..	Plush	33.2	23	89	9.7	1.7	48.0	1 Fd.	G.
..	..	..	..	Rex	41.9	23	90	9.7	1.7	52.0	1 Fd.	G.
..	..	..	..	Newal	34.1	23	90	10.0	2.0	48.5	1 Fd.	G.
..	..	..	..	Prospect..	21.1	23	89	10.0	2.5	48.5	3 CW 6-R	
Necessary difference—7.1 bus.												
ELDON DOUGLAS NIXON, FILLMORE												
2A	7	5	B	OPR 1	49.6	....	....	10.0	1.0	47.0	3 CW 6-R	
..	..	..	..	Plush	42.3	....	....	10.0	1.0	46.5	3 CW 6-R	
..	..	..	..	Rex	39.3	....	....	10.0	1.0	51.0	2 CW 2-R	Stn.
..	..	..	..	Newal	44.0	....	....	10.0	1.0	46.0	3 CW 6-R	
..	..	..	..	Prospect..	48.9	....	....	10.0	2.0	45.5	2 Fd.	Lw.
No significant grain yield difference between varieties.												
ARNOLD LeROY BIEBER, BOX 138, MONTMARTRE												
2A	7	6	A	OPR 1	35.9	28	76	....	1.0	50.0	2 CW 6-R	
..	..	..	..	Plush	31.2	30	82	....	1.0	48.0	3 CW 6-R	
..	..	..	..	Rex	36.4	31	80	....	1.0	52.5	2 CW 2-R	Stn.
..	..	..	..	Newal	34.6	28	82	....	1.0	49.0	3 CW 6-R	
..	..	..	..	Prospect..	49.5	26	74	....	1.0	48.0	1 Fd.	G.
No significant grain yield difference between varieties.												
NORMAN YATES, GRENFELL												
3A	7	7	A	OPR 1	36.9	35	86	9.0	2.0	49.5	1 Fd.	G.
..	..	..	..	Plush	46.6	35	85	9.7	1.5	48.0	1 Fd.	G.
..	..	..	..	Rex	50.5	36	90	9.2	1.7	51.5	1 Fd.	G.
..	..	..	..	Newal	41.2	36	88	8.5	2.7	50.0	3 CW 6-R	
..	..	..	..	Prospect..	34.0	34	85	9.0	2.1	48.5	1 Fd.	B. stn.
Necessary difference—2.5 bus.												
GORDON FRANCIS TULLOCH, BROADVIEW												
3A	7	7	B	OPR 1	36.5	48	87	6.2	2.0	45.0	2 Fd.	Lw.
..	..	..	..	Plush	51.4	48	88	8.2	1.5	45.5	2 Fd.	Lw.
..	..	..	..	Rex	51.4	47	90	10.0	1.0	51.0	1 CW 2-R	
..	..	..	..	Newal	46.3	48	89	8.2	2.5	45.5	2 Fd.	Lw.
..	..	..	..	Prospect..	43.1	45	84	8.0	....	45.2	2 Fd.	Lw.
Necessary difference—5.2 bus.												
BRUCE WILSON BROWNLEE, ROCANVILLE												
3B	7	8	A	OPR 1	10.7	....	....	....	....	46.5	3 CW 6-R	
..	..	..	..	Plush	28.8	....	....	....	....	44.0	2 Fd.	Lw.
..	..	..	..	Rex	12.7	....	....	....	....	49.0	2 CW 2-R	
..	..	..	..	Newal	17.8	....	....	....	....	45.0	2 Fd.	Lw.
..	..	..	..	Prospect..	14.0	....	....	....	....	44.5	2 Fd.	Lw.
Necessary difference—3.6 bus.												
ELMAR NORMAN EINARSON, TANTALLON												
3C	7	9	A	OPR 1	22.2	32	93	10.0	2.0	50.0	1 Fd.	G.
..	..	..	..	Plush	16.3	32	95	10.0	1.0	47.0	1 Fd.	Stn.
..	..	..	..	Rex	22.2	30	95	10.0	1.0	51.0	1 Fd.	Stn. G.
..	..	..	..	Newal	21.2	30	94	9.2	2.5	48.5	3 CW 6-R	
..	..	..	..	Prospect..	12.4	25	92	10.0	1.0	47.0	1 Fd.	G.
Necessary difference—.47 bus.												
ALEXANDER PROVICK, HAZELCLIFFE												
3C	7	9	B	OPR 1	31.6	36	119	7.7	2.5	51.5	1 CW 6-R	
..	..	..	..	Plush	42.2	34	121	7.7	3.0	48.0	3 CW 6-R	
..	..	..	..	Rex	42.8	33	120	10.0	3.0	52.5	1 CW 2-R	
..	..	..	..	Newal	40.9	34	117	9.5	1.2	51.0	3 CW 6-R	
..	..	..	..	Prospect..	28.9	32	118	10.0	2.5	49.0	3 CW 6-R	
No significant grain yield difference between varieties.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
AUDREY E. ACTON, LEMBERG												
3C	7	10	A	OPR 1	46.4	....	....	....	....	49.5	2 CW 6-R	
..	..	..	..	Plush	44.5	....	....	....	....	48.5	3 CW 6-R	Stn.
..	..	..	..	Rex	39.1	....	....	....	....	50.0	2 CW 2-R	Stn.
..	..	..	..	Newal	52.9	....	....	....	....	48.0	3 CW 6-R	
..	..	..	..	Prospect..	44.3	....	....	....	....	48.0	3 CW 6-R	
No significant grain yield difference between varieties.												
WILLIAM KLIEN, GRAYSON												
3C	7	10	B	OPR 1	37.1	36	78	8.0	1.5	45.5	2 Fd.	Lw.
..	..	..	..	Plush	33.4	33	78	8.5	1.5	43.5	2 Fd.	Lw.
..	..	..	..	Rex	36.0	34	78	8.7	1.7	46.5	1 Fd.	Lw.
..	..	..	..	Newal	40.2	37	78	8.2	3.5	45.0	2 Fd.	Lw.
..	..	..	..	Prospect..	34.2	37	78	8.5	1.5	44.5	2 Fd.	Lw.
No significant grain yield difference between varieties.												
LEROY WENDELL, BOX 107, NEUDORF												
3C	7	10	C	OPR 1	41.8	38	85	2.0	1.2	48.5	3 CW 6-R	
..	..	..	..	Plush	45.2	38	87	0.0	1.0	46.0	3 CW 6-R	
..	..	..	..	Rex	39.1	42	86	0.0	1.0	49.5	1 Fd.	Stn.
..	..	..	..	Newal	49.1	39	83	2.0	1.5	48.0	3 CW 6-R	
..	..	..	..	Prospect..	36.6	34	83	3.0	1.0	46.5	1 Fd.	B. Stn.
No significant grain yield difference between varieties.												

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Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
GEORGE PURICH, WROXTON												
3B	8	1	C	OPR 1	56.0	36	84	10.0	1.0	51.0	1 Fd.	G.
..	..	..	..	Plush	50.2	35	87	10.0	1.0	48.0	1 Fd.	G. Sl. e.
..	..	..	..	Rex	50.4	38	84	10.0	1.0	52.5	1 Fd.	Stn. G.
..	..	..	..	Newal	72.4	36	84	10.0	1.7	50.0	3 CW 6-R	
..	..	..	..	Prospect..	52.9	33	82	10.0	1.0	49.5	1 Fd.	B. stn. Sl. e.
Necessary difference—9.8 bus.												
GUSTY L. S. MOLNAR, McKIM												
3C	8	3	B	OPR 1	44.8	40	99	7.0	....	49.5	1 Fd.	G. Stn.
..	..	..	..	Plush	53.2	40	101	7.0	....	50.5	1 Fd.	G. Stn.
..	..	..	..	Rex	47.3	39	100	6.7	....	51.5	1 Fd.	Stn.
..	..	..	..	Newal	54.5	40	98	6.5	....	50.0	1 Fd.	W.
..	..	..	..	Prospect..	41.6	40	99	6.0	....	49.0	1 Fd.	W.
No significant grain yield difference between varieties.												
LESLIE JOHN MUIR, YORKTON												
3B	8	4	A	OPR 1	33.1	30	88	9.0	1.0	47.5	3 CW 6-R	
..	..	..	..	Plush	29.7	30	90	9.0	1.0	47.0	1 Fd.	Stn.
..	..	..	..	Rex	25.2	29	88	9.0	1.0	51.0	2 CW 2-R	
..	..	..	..	Newal	30.7	30	90	9.0	1.0	48.5	3 CW 6-R	
..	..	..	..	Prospect..	26.5	29	90	9.0	1.0	46.0	1 Fd.	Stn.
Necessary difference—4.2 bus.												
EDWARD BERES, WILLOWBROOK												
3C	8	4	B	OPR 1	48.7	32	88	9.7	....	51.5	2 CW 6-R	
..	..	..	..	Plush	39.1	32	88	9.5	....	49.0	1 Fd.	G.
..	..	..	..	Rex	42.1	30	88	9.5	....	51.0	2 CW 2-R	Stn.
..	..	..	..	Newal	49.1	31	88	9.2	....	50.0	3 CW 6-R	
..	..	..	..	Prospect..	34.9	30	88	9.5	....	50.0	3 CW 6-R	
Necessary difference—3.0 bus.												
PETER MICHAEL TOMILIN, BOX 39, VERIGIN												
3B	8	5	A	OPR 1	64.4	34	92	7.0	1.0	53.0	3 CW 6-R	S. stn.
..	..	..	..	Plush	59.3	31	92	6.0	1.0	51.0	1 Fd.	W.
..	..	..	..	Rex	49.0	32	92	5.0	1.0	53.0	2 CW 2-R	Stn.
..	..	..	..	Newal	62.9	33	92	7.0	2.0	52.0	3 CW 6-R	S. stn.
..	..	..	..	Prospect..	50.5	31	91	4.0	1.0	50.5	1 Fd.	W.
Necessary difference—8.0 bus.												
EDGAR LESLIE KVEMSHAGEN, PREECEVILLE												
3B	8	8	B	OPR 1	44.0	28	84	9.5	1.0	48.0	1 Fd.	G. Stn.
..	..	..	..	Plush	46.1	27	84	8.5	1.2	49.0	3 CW 6-R	
..	..	..	..	Rex	36.5	27	83	10.0	1.0	50.0	1 Fd.	Stn. G.
..	..	..	..	Newal	46.3	28	85	9.2	1.5	48.5	3 CW 6-R	
..	..	..	..	Prospect..	25.4	25	82	10.0	1.0	45.0	2 Fd.	Lw.
Necessary difference—5.1 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
PETE KOSTENUKE, ORMSIDE												
4A	8	9	A	OPR 1	36	102	9.0	1.0	....			
..	..	..	..	Plush	39	104	9.0	1.0	....			
..	..	..	..	Rex	34	102	10.0	1.0	....			
..	..	..	..	Newal	36	107	10.0	2.0	....			
..	..	..	..	Prospect..	35	106	10.0	1.0	....			
No samples received.												
Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes												
3B	8	1	A	Wroxton School, Wroxton								
3B	8	2	A	Lloyd J. Inglis, Rokeby								
3B	8	6	A	John Shabits, Tiny								
3C	8	6	B	N. W. Strelioff, Canora								
4A	8	8	C	A. J. Bilanchuk, Jr., Endeavour								
4A	8	10	A	Mike A. Malakoff, Arran.								

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VLADIMER LEONTOWICZ, JASMIN												
3C	9	1	A	OPR 1	28.7	30	71	9.2	2.5	45.5	1 Fd.	Lw. Stn.
..	..	..	..	Plush	21.4	31	71	9.5	2.5	41.0	3 Fd.	Lw.
..	..	..	..	Rex	21.1	31	71	9.7	2.7	44.0	1 Fd.	Lw.
..	..	..	..	Newal	30.7	31	72	9.5	2.5	44.5	1 Fd.	Lw. Stn.
..	..	..	..	Prospect..	20.3	30	71	9.7	2.5	46.5	1 Fd.	B. Stn.
Necessary difference—4.7 bus.												
MARJORIE LOUISE GEORGE, LEROSS												
3C	9	3	A	OPR 1	30.1	23	94	8.5	2.2	47.0	1 Fd.	F. G.
..	..	..	..	Plush	40.3	26	94	10.0	1.2	42.0	3 Fd.	Lw.
..	..	..	..	Rex	30.2	24	94	9.7	1.0	49.5	1 Fd.	G.
..	..	..	..	Newal	43.5	24	85	9.7	2.0	48.5	1 Fd.	F. Stn.
..	..	..	..	Prospect..	24.5	23	89	9.5	1.5	45.5	2 Fd.	Lw.
Necessary difference—2.9 bus.												
REINHOLD RUDOLF WODTKE, PUNNICHY												
3C	9	7	A	OPR 1	51.9	27	94	10.0	1.0	50.0	2 CW 6-R	
..	..	..	..	Plush	52.3	28	100	10.0	1.0	47.0	3 CW 6-R	
..	..	..	..	Rex	48.5	27	94	10.0	1.7	43.0	1 CW 2-R	
..	..	..	..	Newal	53.1	28	93	10.0	2.0	50.0	3 CW 6-R	
..	..	..	..	Prospect..	39.7	28	94	10.0	1.0	50.0	3 CW 6-R	
Necessary difference—3.9 bus.												
EUGENE LAWRENCE RAINA, TUFFNELL												
3C	9	9	A	OPR 1	54.3	28	88	9.0	2.0	48.5	3 CW 6-R	
..	..	..	..	Plush	52.2	29	91	8.7	2.0	48.0	1 Fd.	Stn. G.
..	..	..	..	Rex	53.5	28	89	10.0	1.0	51.0	1 Fd.	Stn. G.
..	..	..	..	Newal	58.6	30	89	8.5	3.0	50.5	3 CW 6-R	
..	..	..	..	Prospect..	37.9	28	86	9.2	1.7	47.5	1 Fd.	Stn. G.
Samples incomplete.												
Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes												
2B	9	6	A	Leland Greenfield, Nokomis								

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GORDON McEWEN, RIVERHURST												
1A	10	2	A	OPR 1	35.7	31	85	9.0	1.0	48.0	3 CW 6-R	
..	..	..	..	Plush	41.3	33	90	7.0	1.0	44.5	2 Fd.	Lw.
..	..	..	..	Rex	32.3	31	90	9.0	1.0	48.5	1 Fd.	Lw.
..	..	..	..	Newal	35.4	34	85	8.0	3.0	48.0	3 CW 6-R	
..	..	..	..	Prospect..	31.0	30	80	9.0	1.0	46.0	3 CW 6-R	
Necessary difference—3.6 bus.												
BERYL FRANCES ANDREWS, GILROY												
1A	10	2	B	OPR 1	16.8	22	92	7.7	2.0	49.5	2 CW 6-R	
..	..	..	..	Plush	28.7	25	92	8.7	2.0	49.0	3 CW 6-R	
..	..	..	..	Rex	23.1	23	92	8.5	1.7	51.0	2 CW 2-R	
..	..	..	..	Newal	20.1	26	92	8.7	2.7	50.0	3 CW 6-R	
..	..	..	..	Prospect..	16.0	24	92	9.2	2.2	48.0	3 CW 6-R	
Necessary difference—3.2 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
BRUCE HERBERT REDMOND, BEECHY												
1A	10	3	A	OPR 1	25.2	....	....	....	....	52.0	1 CW 6-R	
..	..	..	..	Plush	33.5	....	....	....	....	49.5	3 CW 6-R	
..	..	..	..	Rex	31.6	....	....	....	....	53.0	1 CW 2-R	
..	..	..	..	Newal	28.7	....	....	....	....	49.5	3 CW 6-R	
..	..	..	..	Prospect..	25.1	....	....	....	....	50.0	3 CW 6-R	
Necessary difference—3.2 bus.												
GARDINER FACCA, WISETON												
1A	10	4	A	OPR 1	18.9	20	87	....	....	47.0	1 Fd.	G.
..	..	..	..	Plush	33.6	20	87	....	....	45.5	2 Fd.	Lw.
..	..	..	..	Rex	33.1	20	87	....	....	50.0	2 CW 2-R	
..	..	..	..	Newal	28.2	20	87	....	....	47.0	3 CW 6-R	
..	..	..	..	Prospect..	22.2	20	87	....	....	45.5	2 Fd.	Lw.
Necessary difference—8.8 bus.												
WILLIAM GODDARD CRUICKSHANK, BRATTON												
2B	10	5	B	OPR 1	34.1	31	88	8.7	2.7	48.5	1 Fd.	G.
..	..	..	..	Plush	43.9	30	88	8.2	2.0	47.0	1 Fd.	Stn. G.
..	..	..	..	Rex	35.1	26	88	8.5	3.0	52.0	2 CW 2-R	
..	..	..	..	Newal	34.4	30	88	7.2	3.0	49.0	1 Fd.	G.
..	..	..	..	Prospect..	24.6	30	88	8.0	2.7	46.5	1 Fd.	G.
Necessary difference—2.9 bus.												
ROY ALLEN HAGEN, LOREBURN												
2B	10	6	A	OPR 1	9.8	....	....	....	....	48.0	1 Fd.	22% Pl.
..	..	..	..	Plush	21.2	....	....	....	....	46.0	1 Fd.	14% Pl.
..	..	..	..	Rex	19.3	....	....	....	....	51.0	1 Fd.	G.
..	..	..	..	Newal	18.0	....	....	....	....	47.5	1 Fd.	5% Pl. G.
..	..	..	..	Prospect..	6.3	....	....	....	....	45.0	2 Fd.	Lw.
Necessary difference—2.9 bus.												
MERVEL J. ERLANDSON, OUTLOOK												
2B	10	6	B	OPR 1	25.0	25	89	5.0	3.0	49.0	2 CW 6-R	
..	..	..	..	Plush	25.2	27	90	4.0	3.0	47.0	1 Fd.	Stn.
..	..	..	..	Rex	28.4	26	89	10.0	1.0	52.0	2 CW 2-R	Stn.
..	..	..	..	Newal	24.8	25	88	8.0	2.0	48.0	3 CW 6-R	
..	..	..	..	Prospect..	24.2	24	91	6.0	2.0	48.0	3 CW 6-R	
No significant grain yield difference between varieties.												
JOSEPH DALE RONEY, IMPERIAL												
2B	10	8	B	OPR 1	23.0	22	86	9.0	1.0	44.5	2 Fd.	Lw.
..	..	..	..	Plush	22.8	22	86	8.5	1.0	45.0	2 Fd.	Lw.
..	..	..	..	Rex	26.7	22	85	9.2	1.0	50.0	2 CW 2-R	
..	..	..	..	Newal	22.3	22	85	9.0	1.0	46.0	3 CW 6-R	
..	..	..	..	Prospect..	22.2	22	86	9.0	1.0	45.0	2 Fd.	Lw.
No significant grain yield difference between varieties.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

2B	10	10	A	Charles Edward Walper, Donavon

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Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
ORVILLE L. SMITH, KYLE												
1A	11	1	A	OPR 1	4.9	17	72	9.5	2.0	50.0	2 CW 6-R	
..	..	..	..	Plush	10.7	18	74	9.5	2.0	48.0	3 CW 6-R	
..	..	..	..	Rex	7.1	19	73	9.7	2.0	50.0	2 CW 2-R	
..	..	..	..	Newal	8.9	18	76	9.2	2.2	47.0	3 CW 6-R	
..	..	..	..	Prospect..	14.8	18	71	9.7	2.0	50.5	3 CW 6-R	
Necessary difference—2.5 bus.												
JACK BRETZ, EATONIA												
1B	11	4	B	OPR 1	17.3	....	....	....	....	50.5	1 Fd.	G.
..	..	..	..	Plush	15.2	....	....	....	....	46.0	1 Fd.	V. g.
..	..	..	..	Rex	8.8	....	....	....	....	49.0	1 Fd.	G.
..	..	..	..	Newal	12.5	....	....	....	....	48.0	1 Fd.	V. g.
..	..	..	..	Prospect..	16.8	....	....	....	....	46.5	1 Fd.	G.
No significant grain yield difference between varieties.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
JOHN ALLAN YEOMANS, MARENGO												
1B	11	5	A	OPR 1 .... 9.9	19	78	8.2	2.7	48.0	3 CW 6-R		
..	..	..	..	Plush 20.1	22	78	8.5	2.0	46.0	3 CW 6-R		
..	..	..	..	Rex 18.0	22	78	8.0	1.7	50.5	2 CW 2-R		
..	..	..	..	Newal 16.9	21	78	8.2	2.0	47.5	3 CW 6-R		
..	..	..	..	Prospect.. 11.3	22	78	8.2	2.5	47.0	3 CW 6-R		
Necessary difference—2.8 bus.												
ARTHUR GRANT MADIN, PLENTY												
2F	11	9	A	OPR 1 .... 35.2	26	88	8.5	2.0	50.0	2 CW 6-R		
..	..	..	..	Plush 33.7	26	90	9.5	1.2	48.0	3 CW 6-R		
..	..	..	..	Rex 27.4	26	....	9.2	2.0	51.0	2 CW 2-R	Stn.	
..	..	..	..	Newal 36.3	27	89	9.5	2.2	50.0	3 CW 6-R		
..	..	..	..	Prospect.. 31.8	26	88	9.5	1.5	47.5	3 CW 6-R		
Necessary difference—4.4 bus.												
HOWARD ELGIN HAWKINS, HOOSIER												
1B	11	10	A	OPR 1 .... 13.4	28	92	9.0	1.7	49.0	2 CW 6-R		
..	..	..	..	Plush 31.9	28	92	6.7	1.7	50.0	3 CW 6-R		
..	..	..	..	Rex 23.1	28	92	8.5	1.7	50.5	2 CW 2-R		
..	..	..	..	Newal 18.3	28	92	9.0	1.7	50.0	3 CW 6-R		
..	..	..	..	Prospect.. 11.7	28	93	9.0	1.7	47.0	3 CW 6-R		
Necessary difference—3.4 bus.												
Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes												
1A	11	6	A	Elwyn Leroy Kinley, Kindersley								

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ELMER JUNIOR BUSCH, CUTKNIFE												
3E	12	9	A	OPR 1 .... 9.4	22	....	....	....	48.5	3 CW 6-R		
..	..	..	..	Plush 19.7	22	....	....	....	47.0	1 Fd.	W.	
..	..	..	..	Rex 18.3	22	....	....	....	50.0	2 CW 2-R		
..	..	..	..	Newal 12.2	24	....	....	....	46.5	3 CW 6-R		
..	..	..	..	Prospect.. 11.2	22	....	....	....	44.5	2 Fd.	Lw.	
Necessary difference—2.5 bus.												
Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes												
2D	12	6	A	Allan Keith Clemenger, Cactus Lake								
3E	12	8	A	Roy Frank McClelland, Neilburg								
3E	12	10	A	Stanley Charles Southgate, R.R. No. 1, Battleford								
3E	12	10	B	John Patrick McCaffrey, Prongua								

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CHARLES GEORGE COATES, LEROY												
3C	13	1	A	OPR 1 .... 30.7	32	92	8.2	2.0	49.0	2 CW 6-R		
..	..	..	..	Plush 42.4	31	98	8.0	1.2	48.0	1 Fd.	Stn. G.	
..	..	..	..	Rex 32.5	33	92	9.0	2.0	51.0	2 CW 2-R		
..	..	..	..	Newal 32.7	32	92	8.7	2.0	51.0	3 CW 6-R		
..	..	..	..	Prospect.. 23.1	21	83	8.0	1.7	48.5	1 Fd.	Stn. G.	
Necessary difference—6.5 bus.												
JAMES C. BROWER, BOX 98, LANGHAM												
2B	13	6	A	OPR 1 .... 32.2	31	100	8.0	2.0	51.0	1 Fd.	G. Stn.	
..	..	..	..	Plush 25.9	31	100	8.0	2.0	49.5	1 Fd.	G. Stn.	
..	..	..	..	Rex 35.2	32	100	8.0	2.0	48.5	1 Fd.	G. Stn.	
..	..	..	..	Newal 35.4	31	100	8.0	2.0	49.0	1 Fd.	G. Stn.	
..	..	..	..	Prospect.. 26.2	34	100	8.0	2.0	51.0	1 Fd.	G. Stn.	
No significant grain yield difference between varieties.												
HAL LENARED SHOCKEY, VANSCOY												
2B	13	6	B	OPR 1 .... 11.2	25	97	....	1.7	45.0	2 Fd.	Lw.	
..	..	..	..	Plush 24.9	26	97	....	1.2	43.0	2 Fd.	Lw.	
..	..	..	..	Rex 16.2	25	97	....	1.0	49.5	1 Fd.	G.	
..	..	..	..	Newal 20.3	24	97	....	1.7	47.5	3 CW 6-R		
..	..	..	..	Prospect.. 13.8	23	97	....	1.0	42.5	3 Fd.	Lw.	
Necessary difference—3.1 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
				LESTER ARTHUR SCHMIDT, LEOFNARD								
3D	13	9	B	OPR 1	46.0	29	112	7.7	1.7	47.0	3 CW 6-R	
..	..	..	..	Plush	53.0	33	112	9.2	1.2	46.5	3 CW 6-R	3% Pl.
..	..	..	..	Rex	52.3	34	112	9.2	1.0	50.0	2 CW 2-R	
..	..	..	..	Newal	47.5	27	112	8.5	3.0	48.5	3 CW 6-R	
..	..	..	..	Prospect..	36.2	28	112	8.7	2.0	47.0	3 CW 6-R	4% Pl.
Necessary difference—3.9 bus.												
				DENNIS STRUCK, PILGER								
3B	13	10	A	OPR 1	27.7	....	....	....	....	49.0	1 Fd.	G.
..	..	..	..	Plush	28.4	....	....	....	....	48.0	1 Fd.	G.
..	..	..	..	Rex	24.6	....	....	....	....	51.0	1 Fd.	G.
..	..	..	..	Newal	28.9	....	....	....	....	49.5	1 Fd.	G.
..	..	..	..	Prospect..	18.4	....	....	....	....	47.0	1 Fd.	G. Stn.
Necessary difference—2.3 bus.												
				Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes								
2B	13	3	A	Gordon Cecil Armstrong Dundurn								
2B	13	3	C	Aldon Elmer Andreen, Dundurn								
2B	13	5	A	Grover Richardt, Nutana								
2B	13	5	C	Jacob Neufeld, Warman								

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				DONALD MELVIN GECK, KELVINGTON								
3B	14	7	B	OPR 1	18.9	24	83	8.2	1.1	48.0	3 CW 6-R	
..	..	..	..	Plush	18.2	25	83	8.5	1.0	50.0	1 Fd.	10% Pl.
..	..	..	..	Rex	20.9	26	83	9.2	1.2	51.0	1 Fd.	G. Stn.
..	..	..	..	Newal	24.3	24	83	8.5	1.7	48.0	3 CW 6-R	
..	..	..	..	Prospect..	19.3	22	82	9.0	1.0	47.0	3 CW 6-R	
No significant grain yield difference between varieties.												
				MILTON WEIGEL, QUILL LAKE								
3C	14	2	A	OPR 1	17.4	28	87	8.0	2.0	50.5	3 CW 6-R	Sl. g.
..	..	..	..	Plush	22.0	28	90	7.0	2.0	47.5	1 Fd.	G.
..	..	..	..	Rex	18.1	28	84	9.0	1.0	51.0	1 Fd.	G.
..	..	..	..	Newal	13.5	28	85	8.0	2.0	51.0	3 CW 6-R	
..	..	..	..	Prospect..	16.7	28	84	8.0	2.0	50.0	3 CW 6-R	
No significant grain yield difference between varieties.												
				CLARENCE DUANE BENSON, WALLWORT								
4A	14	4	A	OPR 1	30.2	28	93	9.2	2.0	48.0	1 Fd.	G.
..	..	..	..	Plush	28.7	30	93	8.2	1.0	47.0	1 Fd.	G. Stn.
..	..	..	..	Rex	27.0	31	93	9.2	1.0	51.0	1 Fd.	G.
..	..	..	..	Newal	28.4	28	93	7.7	2.7	49.0	3 CW 6-R	
..	..	..	..	Prospect..	23.8	22	93	9.5	1.0	47.5	1 Fd.	G. Stn.
No significant grain yield difference between varieties.												
				ERNEST WILFRED SIGFRID, NORA								
3B	14	4	B	OPR 1	56.5	41	86	10.0	1.7	49.5	1 Fd.	G.
..	..	..	..	Plush	63.5	41	88	9.0	1.0	46.0	1 Fd.	G. Stn.
..	..	..	..	Rex	46.5	43	88	10.0	1.0	50.0	1 Fd.	G. Stn.
..	..	..	..	Newal	64.3	42	87	10.0	1.0	51.0	1 Fd.	G.
..	..	..	..	Prospect..	46.6	34	85	10.0	1.0	47.0	1 Fd.	G.
Necessary difference—5.5 bus.												
				EMILY GROSS, SHAND CREEK								
3F	14	6	A	OPR 1	77.6	37	65	....	....	51.0	1 CW 6-R	
..	..	..	..	Plush	87.8	37	65	....	....	51.0	3 CW 6-R	
..	..	..	..	Rex	64.8	37	65	....	....	54.0	2 CW 2-R	Sl. g.
..	..	..	..	Newal	86.1	37	65	....	....	54.0	3 CW 6-R	
..	..	..	..	Prospect..	60.7	37	65	....	....	49.5	3 CW 6-R	
Necessary difference—10.7 bus.												
				LAWRENCE W. ORR, PLEASANT VALLEY								
3F	14	8	A	OPR 1	14.8	33	....	1.7	1.2	49.0	1 Fd.	G.
..	..	..	..	Plush	24.2	31	....	2.2	1.5	46.5	1 Fd.	G.
..	..	..	..	Rex	23.4	33	....	1.7	1.2	51.5	2 CW 2-R	S. stn.
..	..	..	..	Newal	16.8	31	....	1.5	1.7	50.0	1 Fd.	G. Stn.
..	..	..	..	Prospect..	10.0	29	....	1.2	2.0	47.5	1 Fd.	Stn.
Necessary difference—3.1 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
RALPH ALVIN SCHLECHTE, WHITTOME												
3D	14	8	B	OPR 1	26.0	37	94	8.5	2.2	50.5	2 CW 6-R	3% Pl.
..	..	..	..	Plush	55.3	39	96	7.5	1.0	49.0	3 CW 6-R	
..	..	..	..	Rex	34.6	38	95	9.0	1.2	52.0	1 CW 2-R	
..	..	..	..	Newal	40.7	35	95	9.0	3.0	51.5	3 CW 6-R	
..	..	..	..	Prospect..	21.7	35	93	9.0	2.5	48.5	3 CW 6-R	
Necessary difference—8.5 bus.												
NORMAN LORNE ROWELL, ARMLEY												
3F	14	10	B	OPR 1	42.0	33	97	6.2	2.5	48.5	1 Fd.	G.
..	..	..	..	Plush	42.3	34	100	6.5	2.0	47.0	1 Fd.	G. Stn.
..	..	..	..	Rex	35.6	34	97	7.7	2.5	50.0	1 Fd.	G.
..	..	..	..	Newal	53.0	33	100	6.7	3.0	50.0	3 CW 6-R	
..	..	..	..	Prospect..	33.3	33	91	8.0	2.0	49.0	1 Fd.	V.g. Stn.
Necessary difference—4.0 bus.												
DONALD E. TANNER, BOX 211, CODETTE												
4A	14	11	B	OPR 1	61.7	34	95	10.0	2.2	47.0	1 Fd.	Stn. G.
..	..	..	..	Plush	70.7	33	95	10.0	1.2	46.0	1 Fd.	B. Stn.
..	..	..	..	Rex	54.9	34	95	10.0	2.0	49.5	1 Fd.	Stn. G.
..	..	..	..	Newal	68.8	33	95	10.0	3.0	48.5	1 Fd.	B. Stn.
..	..	..	..	Prospect..	48.5	30	95	10.0	2.2	44.5	2 Fd.	Lw.
Necessary difference—10.2 bus.												

Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes

4A	14	1	D	Andrew Murrison, Lintlaw
3C	14	2	B	Grant Deane Closson, Box 107, Clair
3B	14	3	A	Lloyd Douglas Loyns, LacVert

WHEAT POOL DISTRICT 15

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
JOHN PERCY BAKER, RED DEER HILL												
3E	15	3	A	OPR 1	26.5	24	88	10.0	1.0	45.5	2 Fd.	Lw.
..	..	..	..	Plush	25.8	27	89	10.0	1.0	42.0	3 Fd.	Lw.
..	..	..	..	Rex	23.5	26	91	10.0	1.0	46.0	1 Fd.	Lw.
..	..	..	..	Newal	26.7	25	88	9.7	1.2	45.5	2 Fd.	Lw.
..	..	..	..	Prospect..	15.9	23	88	10.0	1.0	40.5	3 Fd.	Lw.
Necessary difference—4.0 bus.												
JONATHAN LOUIS FRIESEN, ROSTHERN												
3E	15	4	A	OPR 1	35.7	30	97	10.0	2.0	47.0	1 Fd.	G.I.
..	..	..	..	Plush	29.7	35	96	9.0	1.0	48.5	1 Fd.	G. Stn.
..	..	..	..	Rex	32.1	30	97	9.0	2.0	51.0	1 Fd.	G.
..	..	..	..	Newal	36.8	30	96	8.7	3.0	48.5	1 Fd.	G.I.
..	..	..	..	Prospect..	16.6	24	88	9.8	2.0	46.5	1 Fd.	G. Stn.
Necessary difference—8.4 bus.												
RAYMOND ARTHUR LaROSE, WOODHILL												
4B	15	6	A	OPR 1	17.6	40	....	....	....	50.0	2 CW 6-R	
..	..	..	..	Plush	22.7	41	....	....	....	50.0	3 CW 6-R	
..	..	..	..	Rex	17.8	42	103	9.0	....	53.0	1 CW 2-R	
..	..	..	..	Newal	28.7	42	101	9.0	....	51.0	3 CW 6-R	
..	..	..	..	Prospect..	15.6	40	102	10.0	....	47.5	3 CW 6-R	
Necessary difference—6.1 bus.												
DAVID McKEAND, WHITE STAR												
2B	15	9	B	OPR 1	43.9	31	89	9.7	2.5	47.5	1 Fd.	Stn.
..	..	..	..	Plush	45.0	32	89	9.2	2.7	48.0	1 Fd.	W.
..	..	..	..	Rex	33.1	30	87	9.0	2.5	50.5	2 CW 2-R	S. stn.
..	..	..	..	Newal	43.7	31	87	9.5	2.7	48.5	1 Fd.	Stn.
..	..	..	..	Prospect..	30.2	29	90	10.0	3.0	46.5	1 Fd.	W.
Necessary difference—4.2 bus.												
BILL FESCHUK, MEATH PARK												
4A	15	10	B	OPR 1	63.9	40	100	9.0	1.2	48.0	1 Fd.	Stn.
..	..	..	..	Plush	70.8	39	101	9.0	1.0	45.5	2 Fd.	Lw.
..	..	..	..	Rex	58.1	41	101	9.0	1.0	50.0	1 Fd.	Stn. G.
..	..	..	..	Newal	59.8	40	98	9.0	1.2	48.0	1 Fd.	Stn.
..	..	..	..	Prospect..	40.0	37	102	10.0	1.0	45.5	2 Fd.	Lw.
Necessary difference—4.7 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bushel	Com-mercial grades	Grading remarks
				ARNOLD CLARENCE SCOTT, GARRICK								
4B	15	11	A	OPR 1	58.2	27	87	9.0	1.2	48.0	1 Fd.	Stn.
..	..	..	..	Plush	66.8	27	90	10.0	1.0	45.5	2 Fd.	Lw.
..	..	..	..	Rex	47.0	27	90	10.0	1.0	50.0	1 Fd.	Stn.
..	..	..	..	Newal	56.0	28	90	9.0	1.2	48.0	1 Fd.	Stn.
..	..	..	..	Prospect..	49.5	27	91	10.0	1.0	48.5	1 Fd.	Stn.
Necessary difference—6.8 bus.												
				Tests Discarded on Account of Severe Damage By Drought, Hail, Pests or Other Causes								
3E	15	5	B	Tom Churchill Bond, Leask								
3E	15	7	A	Edwin Rask, Nestledown								
3E	15	9	A	Craig Caven, Spruce Home								

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				DAVID M. TRACKSELL, BORDEN								
3E	16	1	A	OPR 1	21.4	24	82	8.5	2.0	48.5	3 CW 6-R	
..	..	..	..	Plush	12.7	22	83	9.0	2.5	46.0	3 CW 6-R	
..	..	..	..	Rex	13.1	22	80	8.5	2.5	51.0	2 CW 2-R	Sl. g.
..	..	..	..	Newal	22.9	22	81	8.0	2.0	49.5	3 CW 6-R	
..	..	..	..	Prospect..	12.6	22	81	8.7	2.5	44.0	2 Fd.	Lw.
Necessary difference—4.8 bus.												
				GILBERT LLOYD McINTYRE, NORTH BATTLEFORD								
3E	16	3	A	OPR 1	34.1	....	....	....	....	46.0	3 CW 6-R	
..	..	..	..	Plush	39.9	....	....	....	....	43.5	2 Fd.	Lw.
..	..	..	..	Rex	31.3	....	....	....	....	49.5	1 Fd.	Stn.
..	..	..	..	Newal	35.0	....	....	....	....	48.5	3 CW 6-R	
..	..	..	..	Prospect..	28.2	....	....	....	....	46.5	2 Fd.	Lw.
Necessary difference—4.8 bus.												
				ROBERT GORDON SHEPHERD, PRINCE								
3E	16	4	A	OPR 1	24.1	....	96	....	1.0	50.0	1 Fd.	G.
..	..	..	..	Plush	25.7	....	96	....	1.0	51.0	3 CW 6-R	
..	..	..	..	**Rex**	20.7	....	102	....	1.0	52.5	2 CW 2-R	Sl. g.
..	..	..	..	Newal	28.1	....	92	....	3.0	52.0	3 CW 6-R	
..	..	..	..	Prospect..	16.0	....	92	....	1.0	47.0	1 Fd.	Stn. G.
No significant grain yield difference between varieties.												
				HERBERT ANDERSON TAYLOR, PAYNTON								
3E	16	5	B	OPR 1	33.2	24	91	9.7	1.0	50.0	2 CW 6-R	
..	..	..	..	Plush	33.3	22	91	9.0	1.0	48.5	3 CW 6-R	
..	..	..	..	Rex	30.4	22	91	10.0	1.0	50.0	2 CW 2-R	
..	..	..	..	Newal	47.6	22	91	10.0	1.0	49.5	3 CW 6-R	
..	..	..	..	Prospect..	28.9	24	91	9.7	1.0	46.5	3 CW 6-R	
Necessary difference—8.2 bus.												
				EILEEN ELIZABETH RICHARDSON, BOX 200, LASHBURN								
3E	16	6	A	OPR 1	40.8	34	92	9.0	3.0	46.5	1 Fd.	G.
..	..	..	..	Plush	28.9	34	92	9.0	3.0	40.0	3 Fd.	Lw.
..	..	..	..	Rex	33.6	36	93	9.0	3.0	49.5	1 Fd.	G.
..	..	..	..	Newal	41.1	36	93	9.0	3.0	45.5	2 Fd.	Lw.
..	..	..	..	Prospect..	30.6	34	93	9.0	3.0	44.0	2 Fd.	Lw.
Necessary difference—4.2 bus.												
				FRANKLIN JAMES VICK, ST. WALBURG								
4B	16	7	A	OPR 1	41.1	41	97	5.5	2.5	49.0	1 Fd.	Stn.
..	..	..	..	Plush	43.9	38	99	6.2	2.0	48.0	1 Fd.	B. stn.
..	..	..	..	Rex	29.0	39	96	7.7	1.5	50.0	1 Fd.	B. stn.
..	..	..	..	Newal	44.2	41	98	3.5	3.0	49.0	1 Fd.	B. stn.
..	..	..	..	Prospect..	31.1	38	97	5.0	1.7	47.5	1 Fd.	B. stn.
No significant grain yield difference between varieties.												
				HENRY LEONARD JOHNSON, BIRCH LAKE								
4B	16	9	A	OPR 1	20.1	20	....	....	3.0	44.5	2 Fd.	Lw.
..	..	..	..	Plush	14.8	22	....	....	1.0	43.0	2 Fd.	Lw.
..	..	..	..	Rex	18.9	28	....	....	3.0	48.5	1 Fd.	G.
..	..	..	..	Newal	19.8	26	....	....	2.0	47.0	1 Fd.	Stn. G.
..	..	..	..	Prospect..	13.8	24	....	....	3.0	42.5	3 Fd.	Lw.
Necessary difference—1.5 bus.												

Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Neck strength	Lbs. per measured bushel	Commercial grades	Grading remarks
EMIL AND LEO LARSON, ROBINHOOD												
2F	16	9	B	OPR 1	42.5	37	86	2.5	2.0	48.0	1 Fd.	B. w.
..	..	..	..	Plush	41.7	33	86	4.5	2.0	46.5	1 Fd.	W.
..	..	..	..	Rex	35.2	36	86	2.0	1.0	50.0	1 Fd.	B. w.
..	..	..	..	Newal	43.1	36	86	2.7	3.0	50.5	1 Fd.	B. w.
..	..	..	..	Prospect..	32.4	33	86	1.5	1.5	46.0	1 Fd.	Stn.
Necessary difference—3.9 bus.												
WILLIAM H. JOHNSON, MAYFAIR												
3E	16	10	B	OPR 1	34.9	29	92	9.5	1.0	46.0	1 Fd.	G.
..	..	..	..	Plush	24.0	29	96	9.7	1.0	44.5	2 Fd.	Lw.
..	..	..	..	Rex	29.9	33	98	10.0	1.0	48.0	1 Fd.	G.
..	..	..	..	Newal	37.6	31	97	9.7	1.2	48.0	2 Fd.	G. Stn.
..	..	..	..	Prospect..	23.9	27	92	10.0	1.0	44.5	2 Fd.	Lw.
Necessary difference—6.2 bus.												
DORIS K. BULLEN, SPIRITWOOD												
4B	16	10	C	OPR 1	9.3	....	....	....	....	50.0	2 CW 6-R	W.
..	..	..	..	Plush	17.2	....	....	....	....	50.0	3 CW 6-R	W.
..	..	..	..	Rex	8.4	....	....	....	....	51.0	1 CW 2-R	S. stn.
..	..	..	..	Newal	10.6	....	....	....	....	50.0	3 CW 6-R	W.
..	..	..	..	Prospect..	7.9	....	....	....	....	46.0	3 CW 6-R	W.
Necessary difference—3.6 bus.												
FRANK HUTTER, GOODSOIL												
4B	16	11	C	OPR 1	50.5	30	95	8.7	1.7	47.0	1 Fd.	B. stn.
..	..	..	..	Plush	42.8	27	96	9.2	1.2	46.0	1 Fd.	W.
..	..	..	..	Rex	40.9	31	94	10.0	1.0	51.0	1 Fd.	W.
..	..	..	..	Newal	46.4	30	94	8.7	2.0	50.0	1 Fd.	B. stn.
..	..	..	..	Prospect..	35.1	29	94	9.7	1.2	43.5	2 Fd.	Lw.
Necessary difference—7.2 bus.												
DONALD EDWIN GALE, COMPASS												
3H	16	11	D	OPR 1	75.0	40	96	7.5	1.5	49.0	1 Fd.	W.
..	..	..	..	Plush	71.5	37	99	7.5	1.0	47.0	1 Fd.	W.
..	..	..	..	Rex	48.5	39	96	8.5	1.0	53.0	1 Fd.	W.
..	..	..	..	Newal	65.5	38	90	7.0	3.0	51.0	1 Fd.	W.
..	..	..	..	Prospect..	53.5	33	96	7.5	2.0	47.5	1 Fd.	W.
Necessary difference—9.2 bus.												

TABLE No. 44

Individual Summarized Results of All Tests

WHEAT

WHEAT POOL DISTRICT 1

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
					EVELYN CHRISTINA LINDBOM, MIDALE							
C	2A	1	6	A	Thatcher	22.1	36	91	8.0	65.0	1 Nor.	
..	..	..	..	..	Apex	19.9	37	91	6.8	64.5	1 Nor.	
..	..	..	..	..	Regent	21.6	36	91	7.4	63.5	2 Nor.	G. I.
..	..	..	..	..	Newthatch	18.6	37	91	7.8	63.5	2 Nor.	G. I.
No significant grain yield difference between varieties.												
					EMIL OLIVER DANGSTORP, WAUCHOPE							
D	3A	1	10	B	Thatcher	31.3	28	86	....	62.5	1 Nor.	
..	..	..	..	..	Apex	30.1	28	86	....	62.5	1 Nor.	
..	..	..	..	..	Regent	31.7	28	86	....	63.0	1 Nor.	
..	..	..	..	..	Newthatch	32.5	28	86	....	62.5	1 Nor.	
No significant grain yield difference between varieties.												

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C	3A	1	3	B	Kenneth Roy Truscott, Alameda

WHEAT POOL DISTRICT 2

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
					ROGER ANTHONY STONE, EAST POPLAR							
C	1A	2	3	A	Thatcher	17.3	39	101	9.0	61.0	3 Nor.	Bl. F.
..	..	..	..	..	Apex	16.0	39	100	8.8	62.5	3 Nor.	F.
..	..	..	..	..	Regent	16.5	39	100	9.6	61.0	3 Nor.	F.
..	..	..	..	..	Newthatch	17.1	37	101	8.8	60.0	3 Nor.	F.
No significant grain yield difference between varieties.												
					MARCEL DECAP, FIR MOUNTAIN							
C	1A	2	6	B	Thatcher	37.0	43	119	10.0	61.5	1 Nor.	Sh.
..	..	..	..	..	Apex	34.5	45	112	8.0	62.5	1 Nor.	
..	..	..	..	..	Regent	36.2	44	110	10.0	62.5	1 Nor.	
..	..	..	..	..	Newthatch	33.0	43	114	9.0	61.5	1 Nor.	Sh.
No significant grain yield difference between varieties.												

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C	1A	2	8	A	Henry B. Hepworth, Readlyn

WHEAT POOL DISTRICT 3

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
					ELWOOD BRICE RICHARDSON, MANKOTA							
C	1A	3	1	A	Thatcher	14.2	31	84	6.2	63.0	1 Nor.	S. st.
..	..	..	..	..	Apex	14.0	30	84	6.2	64.0	2 Nor.	V. st.
..	..	..	..	..	Regent	11.1	31	84	5.8	64.0	1 Nor.	S. st.
..	..	..	..	..	Newthatch	14.7	30	84	6.4	63.0	1 Nor.	S. st.
Necessary difference—1.6 bus.												

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

B	1A	3	5	B	Ivor Clifford Rye, Robsart

WHEAT POOL DISTRICT 4

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
					ROBERT BYRON ANDERSON, RICHMOUND							
A	1B	4	7	C	Thatcher	15.5	21	91	8.6	59.5	2 Nor.	Sh.
..	..	..	..	..	Apex	13.1	20	91	7.8	61.5	1 Nor.	Sh.
..	..	..	..	..	Regent	15.0	20	91	7.2	60.5	1 Nor.	Sh.
..	..	..	..	..	Newthatch	13.1	20	91	8.2	60.0	1 Nor.	Sh.
No significant grain yield difference between varieties.												

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

A	1B	4	2	B	Gerald Albert Tustian, Maple Creek
A	1A	4	10	A	Darcy Allan Douglas, Verlo

WHEAT POOL DISTRICT 5

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Lbs. per measured bus.	Commercial grades	Grading remarks
					RAYMOND DANIEL, NEVILLE							
B	2C	5	3	B	Thatcher	2.2	22	91	....	59.5	2 Nor.	Bl.
..	..	..	..	..	Apex	1.8	26	96	....	61.0	1 Nor.	
..	..	..	..	..	Regent	2.9	24	95	....	60.0	1 Nor.	Sh.
..	..	..	..	..	Newthatch	1.8	26	94	....	59.5	2 Nor.	Bl.
No significant grain yield difference between varieties.												
					Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes							
C	1A	5	2	B	Hubert John Ripley, Glenbain							
B	1A	5	7	A	Mavis June Herbert, Mortlach							

WHEAT POOL DISTRICT 6

					ERNEST WOLDEMAR RICHTER, YELLOW GRASS							
C	2E	6	1	C	Thatcher	35.6	34	79	3.4	64.5	2 Nor.	Sl. g. I.
..	..	..	..	..	Apex	36.2	38	77	2.2	64.5	2 Nor.	G. I.
..	..	..	..	..	Regent	36.6	36	77	2.8	65.0	2 Nor.	G. I.
..	..	..	..	..	Newthatch	36.2	32	79	3.4	63.5	2 Nor.	G. I.
No significant grain yield difference between varieties.												
					RICHARD CARL STRAYER, DRINKWATER							
B	2E	6	6	B	Thatcher	19.3	34	115	....	63.0	1 Nor.	
..	..	..	..	..	Apex	16.3	35	114	....	64.0	1 Hd.	
..	..	..	..	..	Regent	15.5	34	115	....	63.0	1 Nor.	
..	..	..	..	..	Newthatch	17.2	35	115	....	63.0	1 Nor.	
No significant grain yield difference between varieties.												
					DAVID VERNE BATES, GRAND COULEE							
B	2E	6	7	A	Thatcher	5.1	21	....	10.0	63.5	1 Nor.	
..	..	..	..	..	Apex	6.6	21	....	10.0	64.0	1 Nor.	
..	..	..	..	..	Regent	6.9	21	....	10.0	64.5	1 Nor.	Sl. i.
..	..	..	..	..	Newthatch	4.2	21	....	10.0	62.0	1 Nor.	Bl.
No significant grain yield difference between varieties.												

WHEAT POOL DISTRICT 7

					CURTIS ERLING PEARSON, KIPLING							
C	3A	7	4	B	Thatcher	35.2	30	107	10.0	63.5	3 Nor.	G. I.
..	..	..	..	..	Apex	31.7	30	107	9.0	64.5	3 Nor	G. I.
..	..	..	..	..	Regent	31.1	30	107	8.2	63.5	3 Nor.	G. I.
..	..	..	..	..	Newthatch	29.0	30	107	9.0	63.5	3 Nor.	G. I.
Necessary difference—1.9 bus.												
					NORMAN EARL SIM, HANDSWORTH							
C	2A	7	5	A	Thatcher	13.7	29	93	8.0	56.0	4 Nor.	Lw.
..	..	..	..	..	Apex	11.9	29	93	8.0	59.0	2 Nor.	Lw.
..	..	..	..	..	Regent	12.9	29	93	9.0	55.5	No. 4 Sp.	Lw. Sh.
..	..	..	..	..	Newthatch	10.9	30	92	8.0	55.5	No. 4 Sp.	Lw. Sh.
Necessary difference—1.2 bus.												
					JAMES RAYMOND DAYMAN, WHITEWOOD							
D	3C	7	8	B	Thatcher	28.2	33	96	10.0	63.5	1 Nor.	Sl. e.
..	..	..	..	..	Apex	24.1	33	96	10.0	63.0	1 Nor.	S. b. p.
..	..	..	..	..	Regent	26.3	33	97	10.0	64.5	1 Nor.	S. bl.
..	..	..	..	..	Newthatch	25.6	33	95	9.0	63.0	1 Nor.	S. bl.
Samples incomplete.												

WHEAT POOL DISTRICT 8

					LEONARD ADAMS, MacNUTT							
D	3B	8	1	B	Thatcher	27.2	28	....	....	60.0	Rj. 4 Nor.	Sp. 23%
..	..	..	..	..	Apex	23.9	29	....	....	56.0	Rj. No. 5	Sp. 39%
..	..	..	..	..	Regent	23.9	30	....	....	59.0	Rj. 4 Nor.	Sp. 22%
..	..	..	..	..	Newthatch	27.0	26	....	....	54.0	Rj. No. 5	Sp. 32%
Necessary difference—1.9 bus.												

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Lbs. per measured bus.	Commercial grades	Grading remarks
					JACK MICHAEL KOSA, R.R. No. 1, MELVILLE							
D	3C	8	3	A	Thatcher	27.7	....	....	....	64.5	2 Nor.	G. I.
..	..	..	..	..	Apex	24.5	....	....	....	65.0	1 Nor.	Sl. i.
..	..	..	..	..	Regent	26.9	....	....	....	64.5	2 Nor.	G. I.
..	..	..	..	..	Newthatch	26.1	....	....	....	63.5	1 Nor.	Sl. i.
Necessary difference—1.4 bus.												
					Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes							
D	3B	8	8	A	Joseph Clarence Bartch, Sturgis							
D	3B	8	10	B	Thomas C. Brown, Pelly							

WHEAT POOL DISTRICT 9

					WALTER PARFENUIK, HUBBARD							
C	3C	9	1	B	Thatcher	19.9	25	108	10.0	64.0	3 Nor.	G. I.
..	..	..	..	..	Apex	16.7	25	110	10.0	65.0	1 Nor.	Sl. i.
..	..	..	..	..	Regent	15.1	24	110	10.0	65.0	2 Nor.	I.
..	..	..	..	..	Newthatch	18.0	24	108	10.0	63.0	3 Nor.	Bl. I.
Necessary difference—1.4 bus.												
					JOHN ORBAN, PUNNICHY							
C	3C	9	3	B	Thatcher	39.6	35	131	9.8	63.0	1 Nor.	
..	..	..	..	..	Apex	37.2	38	130	8.4	64.0	1 Nor.	Sl. g.
..	..	..	..	..	Regent	36.8	37	129	9.8	64.5	2 Nor.	G. I.
..	..	..	..	..	Newthatch	37.8	37	130	9.8	63.0	2 Nor.	G. I.
No significant grain yield difference between varieties.												
					EARL DOUGLAS CASEMENT, LESLIE							
C	3C	9	10	A	Thatcher	27.9	36	112	10.0	64.0	1 Nor.	Sl. i.
..	..	..	..	..	Apex	22.8	36	112	9.0	65.0	1 Hd.	
..	..	..	..	..	Regent	24.5	36	112	10.0	64.5	1 Nor.	Sl. i.
..	..	..	..	..	Newthatch	21.8	36	112	10.0	64.0	2 Nor.	I.
No significant grain yield difference between varieties.												
					Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes							
B	2B	9	5	A	Marjorie Alice Young, Cymric							

WHEAT POOL DISTRICT 10

					HARRY JOHN MOODY, BIRSAY							
B	1A	10	5	A	Thatcher	35.0	27	....	8.8	59.5	2 Nor.	Lw. Bl.
..	..	..	..	..	Apex	33.1	27	....	8.4	60.0	1 Nor.	
..	..	..	..	..	Regent	31.9	27	....	8.0	60.5	1 Nor.	
..	..	..	..	..	Newthatch	32.0	29	....	9.2	59.5	2 Nor.	Lw. Bl.
Necessary difference—1.8 bus.												
					HARRIS RAYMOND REID, RENOWN							
B	2B	10	8	A	Thatcher	18.3	28	110	10.0	63.5	3 Nor.	V. g. I.
..	..	..	..	..	Apex	19.7	28	110	10.0	64.0	3 Nor.	V. g. I.
..	..	..	..	..	Regent	16.8	28	110	10.0	65.0	1 Nor.	Sl. i.
..	..	..	..	..	Newthatch	17.9	29	110	10.0	64.0	1 Nor.	Sl. i.
No significant grain yield difference between varieties.												

WHEAT POOL DISTRICT 11

					IVER KENNETH DAHL, MANTARIO							
A	1B	11	4	A	Thatcher	10.1	18	110	10.0	60.0	2 Nor.	Bl.
..	..	..	..	..	Apex	10.7	17	110	9.6	61.5	1 Nor.	
..	..	..	..	..	Regent	11.3	18	110	9.6	59.5	2 Nor.	Lw.
..	..	..	..	..	Newthatch	7.5	18	110	9.2	59.5	2 Nor.	Lw. Bl.
Necessary difference—1.5 bus.												
					ALBERT BENJAMIN SAWATZKY, HERSCHEL							
A	1A	11	8	A	Thatcher	28.7	....	98	9.4	63.0	1 Nor.	S. bl.
..	..	..	..	..	Apex	24.8	....	98	9.6	64.0	1 Hd.	
..	..	..	..	..	Regent	22.6	....	98	9.2	64.0	1 Nor.	
..	..	..	..	..	Newthatch	27.2	....	98	9.6	62.5	1 Nor.	Bl.
Necessary difference—1.9 bus.												

WHEAT POOL DISTRICT 12

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
ARTHUR DONALD LEESON, BOX 220, UNITY												
A	2D	12	5	B	Thatcher	5.4	14	96	10.0	58.0	3 Nor.	B. bl.
..	..	..	..	..	Apex	5.2	13	96	10.0	60.0	3 Nor.	B. bl.
..	..	..	..	..	Regent	5.4	13	96	10.0	57.5	3 Nor.	Sh. Bl.
..	..	..	..	..	Newthatch	3.0	13	95	10.0	57.5	3 Nor.	Sh. B. bl.
Necessary difference—1.2 bus.												
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes												
A	2D	12	7	B	Charlie Gordon Forbes, Box 32, Senlac							

WHEAT POOL DISTRICT 13

WM. E. HNIDY, BOX 156, WAKAW												
C	3D	13	9	A	Thatcher	31.9	....	....	....	61.0	No. 5	G. M.
..	..	..	..	..	Apex	23.2	....	....	....	60.5	No. 5	G. M.
..	..	..	..	..	Regent	25.3	....	....	....	61.0	No. 5	G. M.
..	..	..	..	..	Newthatch	28.0	....	....	....	60.5	No. 5	G. M.
Necessary difference—3.7 bus.												
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes												
B	2B	13	5	B	Jacob Dyck, Warman							

WHEAT POOL DISTRICT 14

BENNETT LLOYD GECK, KELVINGTON												
D	3B	14	1	A	Thatcher	14.8	....	....	....	61.5	1 Nor.	S. bl.
..	..	..	..	..	Apex	16.1	....	....	....	63.0	1 Nor.	
..	..	..	..	..	Regent	16.2	....	....	....	62.0	1 Nor.	
..	..	..	..	..	Newthatch	17.0	....	....	....	61.5	1 Nor.	S. bl.
No significant grain yield difference between varieties.												
ARTHUR EDWIN CLAPSON, RIDGEDALE												
D	4A	14	9	A	Thatcher	24.7	36	101	10.0	64.0	1 Hd.	
..	..	..	..	..	Apex	23.1	36	101	10.0	65.0	1 Hd.	
..	..	..	..	..	Regent	23.7	35	101	10.0	65.0	1 Hd.	
..	..	..	..	..	Newthatch	20.8	36	100	10.0	62.5	1 Nor.	Bl.
Necessary difference—1.4 bus.												
SIDNEY JOHN THIRKETTLE, AYLSHAM												
D	3F	14	11	A	Thatcher	57.5	39	112	8.0	64.0	4 Nor.	F.G.I.
..	..	..	..	..	Apex	50.8	40	111	7.0	63.0	3 Nor.	F.I.
..	..	..	..	..	Regent	52.3	37	108	9.0	64.0	3 Nor.	F.I.
..	..	..	..	..	Newthatch	46.6	39	112	7.6	63.5	4 Nor.	F.G.I.
Necessary difference—4.0 bus.												

WHEAT POOL DISTRICT 15

JOSEPH BLANCHARD, DUCK LAKE												
C	3E	15	3	B	Thatcher	7.0	34	89	6.0	63.5	1 Nor.	
..	..	..	..	..	Apex	7.3	33	89	6.0	63.5	1 Nor.	
..	..	..	..	..	Regent	7.5	33	89	6.2	64.0	1 Nor.	
..	..	..	..	..	Newthatch	6.7	35	89	7.0	62.0	1 Nor.	Bl.
No significant grain yield difference between varieties.												
MARGARET D. BRATT, BOX 52, LEASK												
C	3E	15	5	A	Thatcher	2.8	21	115	9.8	62.0	1 Nor.	
..	..	..	..	..	Apex	2.9	20	115	9.4	63.0	1 Nor.	
..	..	..	..	..	Regent	2.9	19	115	9.8	64.0	1 Nor.	
..	..	..	..	..	Newthatch	2.3	19	115	9.6	62.5	1 Nor.	Bl.
No significant grain yield difference between varieties.												
LLOYD JAMES HEAD, SHIPMAN												
D	4A	15	10	A	Thatcher	70.3	50	....	8.8	61.0	No. 6	G. M.
..	..	..	..	..	Apex	62.2	51	....	4.2	59.0	No. 6	G. M.
..	..	..	..	..	Regent	68.7	50	....	10.0	60.5	No. 6	G. M.
..	..	..	..	..	Newthatch	54:5	49	....	8.2	59.0	No. 6	G. M.
Necessary difference—9.1 bus.												
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes												
C	3E	15	7	B	Irvin William Jung, Mont Nebo							

WHEAT POOL DISTRICT 16

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bus. per acre	Plant height in inches	Days seeding to ripening	Straw strength	Lbs. per measured bus.	Commercial grades	Grading remarks
ROBT. HENRY SIMMONDS, R.R. No. 1, SPEERS												
B	3E	16	2	A	Thatcher	26.7	30	113	9.0	63.5	1 Nor.	S. bl.
..	..	..	..	..	Apex	25.2	31	115	9.0	64.5	1 Nor.	S. b. p.
..	..	..	..	..	Regent	25.0	30	116	9.0	63.0	1 Nor.	
..	..	..	..	..	Newthatch	24.9	30	116	9.0	62.5	1 Nor.	S. bl.
No significant grain yield difference between varieties.												
KEN WILLIAM WESSON, MAIDSTONE												
B	3E	16	5	A	Thatcher	21.1	29	104	....	65.0	1 Nor.	Sl. g.
..	..	..	..	..	Apex	17.4	30	105	....	65.0	1 Hd.	
..	..	..	..	..	Regent	22.1	29	102	....	65.5	1 Hd.	Sl. g.
..	..	..	..	..	Newthatch	19.2	29	105	....	64.5	1 Nor.	Sl. g.
Necessary difference—1.7 bus.												
WALTER ILNESKY, RANGER												
C	4B	16	10	A	Thatcher	20.1	39	115	9.0	52.5	Fd.	V. g. I.
..	..	..	..	..	Apex	12.5	37	115	9.0	52.5	Fd.	V. g. I.
..	..	..	..	..	Regent	16.3	38	115	9.0	55.0	Fd.	V. g. I.
..	..	..	..	..	Newthatch	17.9	39	115	9.0	53.5	Fd.	V. g. I.
Necessary difference—3.0 bus.												

TABLE No. 45

Individual Summarized Results of All Tests

FLAX

WHEAT POOL DISTRICT 1

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test desig-nation	Varieties	Yield bushels per acre	Plant height in inches	Days seeding to ripening	Lbs. per measured bushel	Commercial grades	Grading remarks
					BRUCE WEBSTER CAMERON, ARCOLA						
C	3A	1	9	B	Bison	5.8	20	91	55.0	1 CW	
..	..	..	..	..	Royal	11.9	20	91	56.0	1 CW	4% Dgd.
..	..	..	..	..	Redwing	9.2	20	91	56.0	1 CW	
..	..	..	..	..	Victory	11.7	20	91	56.0	1 CW	
..	..	..	..	..	977	11.5	20	91	55.0	1 CW	
..	..	..	..	..	Koto	9.9	20	91	55.0	1 CW	
Necessary difference—1.8 bus.											

WHEAT POOL DISTRICT 2

					HARVEY GRAY, CEYLON						
C	2A	2	2	A	Bison	7.1	18	139	55.0	1 CW	
..	..	..	..	..	Royal	7.3	18	139	55.0	1 CW	6% Spl.
..	..	..	..	..	Redwing	6.4	18	139	54.0	1 CW	5% Spl.
..	..	..	..	..	Victory	7.3	16	142	56.0	1 CW	
..	..	..	..	..	977	7.4	16	139	55.0	1 CW	
..	..	..	..	..	Koto	7.1	16	139	55.0	1 CW	5% Spl.
No significant grain yield difference between varieties.											
					RAY TONER, BENGOUGH						
C	1A	2	9	C	Bison	7.0	30	88	56.0	1 CW	
..	..	..	..	..	Royal	11.3	26	....	54.5	1 CW	
..	..	..	..	..	Redwing	11.8	28	78	56.5	1 CW	
..	..	..	..	..	Victory	14.4	27	99	55.0	1 CW	4% Spl.
..	..	..	..	..	977	11.5	27	....	54.5	1 CW	
..	..	..	..	..	Koto	14.3	28	92	54.5	1 CW	
No significant grain yield difference between varieties.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C	1A	2	7	A	Willard Yorga, Flintoft

WHEAT POOL DISTRICT 3

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

B	1A	3	2	B	John Joseph Harbor, Masefield

WHEAT POOL DISTRICT 4

					GLEN AND HARVE REDICK, MAPLE CREEK						
A	1B	4	6	A	Bison	4.4	21	....	55.0	1 CW	
..	..	..	..	..	Royal	5.0	21	....	54.5	1 CW	
..	..	..	..	..	Redwing	4.5	19	....	56.0	1 CW	
..	..	..	..	..	Victory	5.3	22	....	56.0	1 CW	4% Spl.
..	..	..	..	..	977	2.1	21	....	53.5	1 CW	
..	..	..	..	..	Koto	2.4	21	....	56.0	1 CW	
Necessary difference—1.6 bus.											
					JOHN P. HUDEC, FOX VALLEY						
A	1B	4	7	A	Bison	4.4	15	92	54.5	1 CW	
..	..	..	..	..	Royal	10.1	16	88	55.5	1 CW	
..	..	..	..	..	Redwing	5.1	19	85	57.0	1 CW	
..	..	..	..	..	Victory	5.2	14	95	55.5	1 CW	
..	..	..	..	..	977	5.4	16	98	53.5	1 CW	
..	..	..	..	..	Koto	3.4	17	93	56.0	1 CW	
Necessary difference—1.8 bus.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

A	1A	4	10	A	Darcy Allan Douglas, Verlo

WHEAT POOL DISTRICT 6

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bushels per acre	Plant height in inches	Days seeding to ripening	Lbs. per measured bushel	Commercial grades	Grading remarks
					GEORGE DOUGLAS STEER, BOX 66, YELLOW GRASS						
C	2E	6	1	B	Bison	3.5	21	105	54.5	1 CW	3% G.
..	..	..	..	..	Royal	12.1	22	104	55.0	1 CW	
..	..	..	..	..	Redwing	4.4	21	105	56.0	1 CW	
..	..	..	..	..	Victory	10.6	21	104	55.5	1 CW	3% Spl.
..	..	..	..	..	977	12.0	21	100	54.0	1 CW	
..	..	..	..	..	Koto	13.2	23	101	54.0	1 CW	
Necessary difference—1.3 bus.											
					THELMA LUCILLE TERRY, BOX 85, WILCOX						
B	2E	6	3	A	Bison	11.2	17	105	56.5	1 CW	
..	..	..	..	..	Royal	13.1	16	98	54.0	1 CW	
..	..	..	..	..	Redwing	9.9	15	95	57.0	1 CW	
..	..	..	..	..	Victory	12.2	16	105	56.0	1 CW	4% Dgd.
..	..	..	..	..	977	11.6	18	105	54.0	1 CW	7% G.
..	..	..	..	..	Koto	11.7	16	104	55.5	1 CW	3% Dgd.
No significant grain yield difference between varieties.											
					LLOYD LIND, BAILDON						
B	2E	6	5	C	Bison	4.7	11	....	46.5	4 CW	Lw. Dgd.
..	..	..	..	..	Royal	4.4	12	....	49.5	3 CW	Dgd.
..	..	..	..	..	Redwing	6.0	11	....	50.0	2 CW	Dgd.
..	..	..	..	..	Victory	5.4	9	....	49.0	3 CW	Dgd.
..	..	..	..	..	977	2.4	10	....	47.0	3 CW	Lw. Dgd.
..	..	..	..	..	Koto	6.0	9	....	51.0	2 CW	Dgd.
No significant grain yield difference between varieties.											
					ELLWOOD H. WILSON, ROULEAU						
B	2E	6	6	A	Bison	6.7	23	132	54.0	2 CW	F.
..	..	..	..	..	Royal	9.4	21	133	54.0	2 CW	F.
..	..	..	..	..	Redwing	5.7	22	133	55.0	2 CW	F.
..	..	..	..	..	Victory	6.2	21	136	54.5	3 CW	30% F.
..	..	..	..	..	977	7.5	21	137	51.0	2 CW	F.
..	..	..	..	..	Koto	9.7	22	130	54.0	2 CW	F.
Necessary difference—2.3 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
C	3C	6	2	C	Rita E. Biegler, Vibank						

WHEAT POOL DISTRICT 7

					LORRAINE GORDON, MOOSOMIN						
D	3B	7	2	B	Bison	5.6	20	92	55.0	1 CW	
..	..	..	..	..	Royal	14.1	22	92	56.0	1 CW	
..	..	..	..	..	Redwing	7.3	21	92	56.0	1 CW	
..	..	..	..	..	Victory	12.2	22	92	55.5	1 CW	
..	..	..	..	..	977	8.0	24	92	55.5	1 CW	
..	..	..	..	..	Koto	10.3	22	92	55.0	1 CW	
Necessary difference—2.6 bus.											

WHEAT POOL DISTRICT 11

					EUGENE TRYTTEN, KYLE						
A	1A	11	1	B	Bison	2.2	....	....	55.0	1 CW	
..	..	..	..	..	Royal	3.3	....	....	55.0	1 CW	
..	..	..	..	..	Redwing	1.9	....	....	55.5	1 CW	
..	..	..	..	..	Victory	2.2	....	....	54.5	1 CW	5% Spl.
..	..	..	..	..	977	.8	....	....	*	1 CW	
..	..	..	..	..	Koto	2.5	....	....	55.5	1 CW	
No significant grain yield difference between varieties.											
* Insufficient to weigh.											
					ERNIE ROMIE KANASEWICH, BOX 60, EATONIA						
A	1B	11	4	C	Bison	4.4	20	111	56.0	1 CW	
..	..	..	..	..	Royal	6.4	19	111	55.0	1 CW	10% Dgd.
..	..	..	..	..	Redwing	3.7	19	111	56.5	1 CW	
..	..	..	..	..	Victory	4.9	20	112	55.0	1 CW	6% Dgd.
..	..	..	..	..	977	3.7	19	115	55.5	1 CW	
..	..	..	..	..	Koto	3.6	19	110	56.0	1 CW	
Necessary difference—1.4 bus.											

WHEAT POOL DISTRICT 12

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

A	2D	12	1	A	Wm. R. Gidluck, Biggar
C	3E	12	8	B	Lyle Alan Cayford, Marsden

WHEAT POOL DISTRICT 14

Area	Cereal Variety Zone	Dist.	Sub-Dist.	Test designation	Varieties	Yield bushels per acre	Plant height in inches	Days seeding to ripening	Lbs. per measured bushel	Commercial grades	Grading remarks
					DAVID PETRIE, LINTLAW						
D	3B	14	1	C	Bison	4.1	....	....	54.0	1 CW	G. I.
..	..	..	..	..	Royal	5.8	....	....	53.0	3 CW	G. I.
..	..	..	..	..	Redwing	5.5	....	....	56.5	1 CW	
..	..	..	..	..	Victory	5.0	....	....	52.0	3 CW	50% F.
..	..	..	..	..	977	4.5	....	....	49.0	3 CW	G.
..	..	..	..	..	Koto	5.6	....	....	54.0	3 CW	31% F.
No significant grain yield difference between varieties.											
					JAMES ALBERT TAYLOR, RIDGEDALE						
D	4A	14	10	A	Bison	7.4	12	....	55.0	1 CW	
..	..	..	..	..	Royal	10.0	12	....	54.0	1 CW	3% Dgd.
..	..	..	..	..	Redwing	6.9	12	....	55.5	1 CW	
..	..	..	..	..	Victory	9.3	12	....	54.5	1 CW	4% Dgd.
..	..	..	..	..	977	11.3	12	....	54.0	1 CW	
..	..	..	..	..	Koto	7.2	12	....	53.5	1 CW	3% Dgd.
Necessary difference—2.6 bus.											
					EVAN HULLEY, BOX 177, CODETTE						
D	3F	14	11	C	Bison	12.9	19	120	53.0	1 CW	
..	..	..	..	..	Royal	8.7	21	116	55.5	1 CW	
..	..	..	..	..	Redwing	8.7	20	113	56.0	1 CW	
..	..	..	..	..	Victory	12.6	19	127	54.5	1 CW	8% F.
..	..	..	..	..	977	10.9	21	129	54.5	1 CW	
..	..	..	..	..	Koto	12.0	21	129	56.0	1 CW	
No significant grain yield difference between varieties.											

WHEAT POOL DISTRICT 15

					SHELDON ISAAC FRIESEN, BOX 29, ROSTHERN						
C	3E	15	4	B	Bison	17.6	23	96	55.0	1 CW	
..	..	..	..	..	Royal	20.7	23	112	54.5	2 CW	16% F.
..	..	..	..	..	Redwing	17.5	23	98	57.0	1 CW	
..	..	..	..	..	Victory	19.1	23	108	57.0	2 CW	15% F.
..	..	..	..	..	977	15.9	23	113	55.0	1 CW	
..	..	..	..	..	Koto	19.5	23	100	57.0	1 CW	10% F.
No significant grain yield difference between varieties.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

D	4B	15	9	C	Eugene Howard Johns, Henribourg

WHEAT POOL DISTRICT 16

					VERNON GORDON ROY RUTTAN, LONE ROCK						
C	3E	16	6	B	Bison	0.5	21	....	*	3 CW	F.
..	..	..	..	..	Royal	0.8	18	....	*	4 CW	F.
..	..	..	..	..	Redwing	0.6	22	....	*	2 CW	F.
..	..	..	..	..	Victory	0.5	16	....	*	4 CW	F.
..	..	..	..	..	977	0.5	22	....	*	4 CW	F.
..	..	..	..	..	Koto	0.8	22	....	*	3 CW	F.
No significant grain yield difference between varieties.											
* Insufficient to weigh.											
					VERA J. TURCOTTE, DORINTOSH						
C	4B	16	11	A	Bison	2.1	23	117	*	4 CW	F.
..	..	..	..	..	Royal	4.1	20	122	47.0	4 CW	F.
..	..	..	..	..	Redwing	5.8	22	115	54.5	3 CW	F.
..	..	..	..	..	Victory	5.3	22	118	48.0	4 CW	F.
..	..	..	..	..	977	4.4	20	120	47.0	3 CW	F.
..	..	..	..	..	Koto	1.7	22	119	*	4 CW	F.
Necessary difference—2.3 bus.											
* Insufficient to weigh.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

B	3E	16	4	B	Paul Emile Jullion, St. Hippolyte

CONCLUSIONS

Despite the fact that over a relatively wide area of Saskatchewan climatic conditions in 1943 were far from satisfactory, this variety testing project proved well worth while. Including as it did a number of new varieties, the results provided valuable information which would otherwise be unattainable. In this regard the following exerpts from a paper delivered by one of our leading plant breeders to the American Society of Agronomy at Washington is of particular interest. "The present trend in the comparative testing of new varieties or treatments is toward having a large number of tests well distributed. The many combinations of climatic, soil, and topographical conditions which occur in any large agricultural area are represented very roughly at the best by the results obtained on the existing experiment stations. The station tests give results which apply precisely to only the very limited environments of the stations and therefore serve satisfactorily only the few farmers who reside close by. The remaining farmers, possibly 90% of the total number, have to be satisfied with more or less misleading approximations, unless, in addition to the station tests, supplementary local tests are conducted. The situation is well illustrated in the Province of Saskatchewan. There are five experiment stations in the Province serving a block of farming country roughly 400 miles by 300 miles with a large diversity of soils and climates . . . devoted annually to grain crops. It is generally considered that the results obtained at the experiment stations, augmented occasionally by some co-operative tests with farmers, are inadequate, particularly when information on the comparative performance of new varieties is desired urgently by farmers in all parts of the Province. . . . It would seem that in order to ascertain quickly the comparative performance of new varieties of an important crop in the different parts of a large agricultural area, literally hundreds of tests should be run for at least two representative years."

Owing to conditions arising out of the war, the co-operators who undertook the actual field work were younger than the boys and girls who had carried out this task in previous years. Although the tests were simplified, they still entailed a considerable amount of labour and supervision yet these young co-operators have responded in a manner which has surpassed all expectations. The proper method of laying out, sowing, and reporting upon an accurate test of varieties is in itself of considerable educational value. During the growing season the co-operators have been able to make a close study of the comparative behaviours of the varieties used in the tests, thus enabling them to recognize these varieties when grown under field conditions. By taking part in these testing programmes our farm youth are also able to appreciate at least a part of the work which is constantly being carried on by the Saskatchewan Wheat Pool Organization toward agricultural welfare. Finally, the tests are an aid to farmers in the choice of a crop or variety suitable for their own particular area, as well as furnishing reliable data to our professional advisors in Agriculture, upon which they are able to base their recommendations. In this regard it may be mentioned that the Saskatchewan Cereal Variety Committee use the results of these tests with those of the Experimental Stations to formulate recommendations for the different zones. This Committee recently drew up cereal variety recommendations for 1944. These recommendations are now available in published circular from the University Extension Department, Saskatoon, or your nearest Experiment Station, or the Saskatchewan Department of Agriculture, or the Saskatchewan Wheat Pool, Regina.

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